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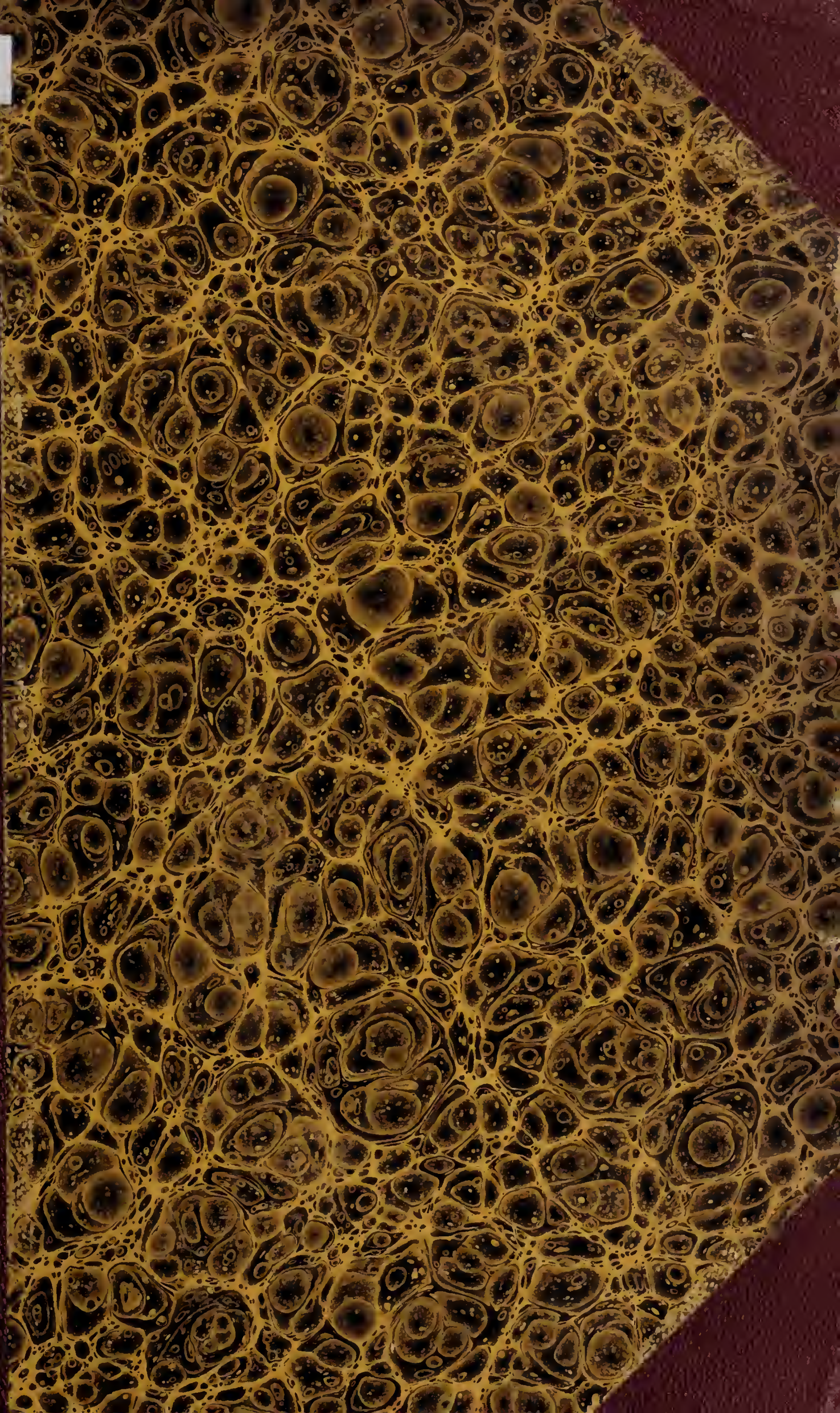

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NORTHWESTERN LANCET
A Semimonthly Medical Journal

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DIAGNOSIS OF ULCER OF THE STOMACH*

By Christopher Graham, B. S., M. D.

Physician to St. Mary's Hospital

ROCHESTER, MINN.

Ulcer of the stomach demands attention, first, because of the distress and pain which makes life miserable and unprofitable; secondly, because through lack of proper nourishment the general resistance is so reduced that destructive diseases find ready lodgment; thirdly, because of frequent pyloric obstruction and its associated evils; fourthly, perforation and hemorrhage threaten life; and, fifthly, malignant degeneration often develops in the ulcer area.

With each case presenting these factors to the clinician, with the multitude of sufferers who daily seek relief, it should be an earnest duty to put forth every effort to an exact diagnosis,—a matter often easy, and again well nigh impossible.

In the cases that have come to our clinics, the symptoms complained of have been various, but when one holds in mind this common pathological condition the symptoms present rarely fail to give a definite pointing,—gas, belching or bloating, usually both, burning, distress, pain, eructations, "heartburn," sour stomach, vomiting, weakness and hemorrhage. Some or all of these are complained of soon after food is taken or during the digestive act. Headache, constipation, pallor, cachexia, general weakness, mental weakness, melancholia, and anxious, worn expression, may appear at any stage, but are oftener seen in the chronic type.

A careful history is of the utmost importance in reaching a correct diagnosis. First, determine the length of time the symptoms have run, how constant they are, and when they appear; secondly, get the full history of the relapses, for so prone is ulcer to long spells of relief with sudden relapses that one can scarcely help thinking of and diagnosticating ulcer with such history before him; thirdly, learn the number of symptoms present, their severity, and when at their height; fourthly, get the location of the pain or complaint; fifthly, determine carefully the reason, if wasting is present. The last-named is very important, for one cannot argue from the state of nutrition as to the condition of the appetite. Is he able to eat, is he eager for food, is he without desire for food, or has he a disgust for it? As a rule, the patient with ulcer has a desire for food, even craves it. This is natural, as the digestive juices are abundant, even in excess; but through fear of gas, distress, and pain, he abstains, and hence the emaciation.

This history, together with inspection, percussion, and palpation, with chemical reaction after a test-meal, with inflation of the stomach, and blood examination, will enable one to arrive at a diagnosis.

Hydrochloric acid is usually present and often increased in quantity,—a condition favoring ulceration of the stomach. Anemia is, as a rule, present. In the acute form it is often pronounced, with little if any emaciation. Perhaps anemia is at times secondary, but I am sure it is oftener primary, and is thus an inviting cause. It precedes the onset of symptoms, and is certainly worthy of careful attention when considering gastric ulcer. Another symptom or condition worthy of special attention is dilatation. This is present in a greater number of sufferers, and is rarely absent in any case where the type is chronic.

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*Read before the Minnesota Valley Medical Society, December 2, 1902.

Some of the more characteristic and constant symptoms demand special attention.

PAIN.—The pain varies from mere distress to intense suffering, and is described as burning, gnawing, boring, and is, when properly interpreted, the most important and characteristic symptom. Not the kind of pain, however, for the kind rarely helps. Cramp-like pains in the stomach and hemorrhage fixes a diagnosis for ulcer, while the same described pain, with jaundice, enlarged liver, and gall-bladder, or with passage of stones in the stools, points just as clearly to gall-stones. The time and location of the pain are the factors. The pain depends upon the meal (quantity and quality of food), appears oftenest at or soon after eating, is relieved by vomiting, and is rarely present when the stomach is empty. As the case becomes more chronic, the interval between the taking of food and the appearance of pain is lengthened and may be present only daily; or even longer periods of ease may be experienced. The location of the pain is valuable. The pain in ulcer is oftenest located in the epigastric region, just below the xiphoid cartilage or to the left of the median line, and very rarely to the right. Often a diffuse pain is complained of, with radiation to the back, but this is rarely to the right of the median line. If found to the right the location is low, and we usually find prolapse or dilatation, or both, and the case is more or less chronic. We frequently find general epigastric tenderness to pressure but painful circumscribed areas are much less common, while dorsal points of tenderness scarcely enter into reckoning.

VOMITING.—Like pain, vomiting is not misleading if the interpretation is made. A few cases do not vomit, but of these the greatest number have nausea. However, by far the greater majority at some stage of the attack, do vomit. Like pain in the acute stage, vomiting usually comes on as soon as the food enters the stomach or soon thereafter, usually not much beyond the hour mark. As the case becomes more chronic the interval between food-taking and vomiting may increase, until, as is seen in the most chronic type with pyloric obstruction and great dilatation, the vomiting interval is of daily or weekly occurrence, and the vomitus large in quantity, acid, and containing considerable fluid with food debris. Relief is afforded for a time, the symptoms gradually returning as the stomach re-accumulates ingesta and its secretions.

The kind of vomitus is diagnostic. In the acute ulcer the food is returned as taken. In more delayed vomiting there is more or less of the digestive juices mixed with the food, while in the chronic cases the vomitus is usually quite fluid, the food well broken up, and the whole mass so acid and corroding that the teeth are often eaten to the gums by contact with the material so vomited. Some patients raise this without effort, or complain that it runs from the mouth on lying down. Vomiting of blood, when other causes, such as kidney and heart trouble, tuberculosis, and cirrhosis of the liver, can be excluded, is satisfactory evidence of ulcer; but in our experience it is among the rarer symptoms, and a diagnosis can scarcely wait for such evidence. Careful examination of the stomach-washings will frequently reveal blood-cells, and this method of information should be followed for this clinching evidence. Lest the digestive juices destroy the cells, the microscopic examination should be made immediately after the washings are taken. The chemical test for blood may succeed when the microscope fails. In our cases hyperacidity has been quite a constant factor, unless the case was thoroughly chronic, and it would appear, as Riegel has pointed out, that hyperacidity is primary and ulcer secondary. Constipation, regardless of age or sex, is so constant a factor that it has a place in diagnosis. In differential diagnosis the chief diseases are cancer, gall-stones, nervous gastrosuccorrhea, and gastralgia.

CANCER.—In cancer the pain is more constant and diffuse, and not relieved by vomiting; blood is less in amount, more frequently found, and is of a dark "coffee-ground" appearance. The appetite is usually poor, and there is often no taste for food, or utter disgust appears. Emaciation and cachexia develop rapidly. Tumor and glandular enlargements are more often found. There is lessened hydrochloric acid, or absence; presence of lactic acid, yeast fungi and Oppler-Boas bacilli and cancer fragments (Hemmeter). Age, and a steady downward course of short duration is the rule. Finally an exploratory incision is demanded, because it is the only positive means of diagnosis.

Gall-stones.—The pain in case of gall-stones is oftener described as terrible, and is more often diffused over a larger area at the onset, or has points of intensity farther removed from the pathological seat of the trouble, that is, the pain may be high in the chest, far to the left, or low in the abdomen; but the time of occurrence, suddenness of the onset, and independence of food (normal hydrochloric), with the history of the attack and tender spot under the right costal arch, will lead to the correct location of the trouble. In the great majority of cases the pain is to the right of the median line, shooting through to the right shoulder, and has irregular intervals of appearance, long duration, sudden recovery, especially in the earlier attacks, and is not eased by abstinence from food or by vomiting. The pain often comes at night when the digestive function is at rest. The characteristic symptom is the point of tenderness to pressure under the right costal arch. This, with the enlarged liver, distended gall-bladder, jaundice or passage of stones, simplifies the diagnosis.

Nervous gastrosuccorrhea.—This disease, often called nervous dyspepsia, may be mistaken for ulcer, because it is often a precursor of such a condition. These patients have pain when the stomach is empty, and they digest food readily, perhaps rapidly early in the trouble, and are at perfect ease during the digestive act; but when the food has left the stomach, the over-abundant and continual gastric secretion irritates the mucous membrane, and extreme pain may result. Usually the severest pain is before dinner and supper, yet many are awakened during the latter part of the night, and get rest only through food and drink. Early in these cases there is good motive power, no pyloric trouble, and rarely dilatation; but later all seem to suffer, save perhaps the pylorus. Many of these cases do develop ulcer. The symptoms gradually change, there is a lessening of the premeal pain, shorter after relief, with pain again developing shortly after the meal or before the stomach is emptied, finally passing to typical ulcer symptoms, with ulcer, dilatation, loss of motive power, and perhaps pyloric obstruction. These cases have been common in our clinic. We have developed it in many histories, and followed it in several cases. These are the ulcer cases that are rarely free from pain.

Gastralgia.—Gastralgia appears often in the distinctly neurotic. The pain is sudden, irregular, independent of food, save that food may diminish the pain, not relieved by vomiting, pressure oftener gives relief, and rest and diet have little influence. The nutrition is not often impaired, there is no hemorrhage, no tumor, no dilatation, no gastric distress. Between attacks there is no tender spot.

Finally, in making a diagnosis of ulcer of the stomach, like most other diseases, we cannot rely on purely pathognomonic symptoms; but it is only by weighing and considering all,—the history, symptoms and combination of symptoms,—that we may hope to reach positive conclusions.

AN EPIDEMIC

The Copenhagen papers publish this piquant little story:

A prominent business man appeared at the office of his family physician, and communicated to him with great concern, that his son, the joy and hope of the family, to all appearances was suffering from diphtheria.

The doctor shrugged his shoulders in a sympathic way: "Very sorry to hear it. No mother's soul is safe when that sneaking disease comes around."

"But," continued the man, "the dear young lad has confessed that he caught the disease from the house-maid, whom he had kissed."

"Well, what in the world shall one say to that? Young people are very thoughtless, remarked the doctor discreetly."

"But, don't you see, doctor—how—to be plain—between you and me—I have also kissed the girl (the horrid thing); perhaps I too will be down with the disease."

"Yes, by thunder, that is the next thing to expect—

"And I kiss my dear wife every morning and evening, so we risk having her—"

"My God and Creator, exclaimed the doctor, bringing his fist down with emphasis, then I too will have it.

Tableau.

THE METHYLENE-BLUE FALLACY

F. C. Drenning, M. D.

DULUTH, MINN.

The use of methylene-blue as a destroyer of the gonococcus and a cure for gonorrhea in the male, has attained such wide proportions that a study of this remedy in this capacity seems apropos.

Specific urethritis, gonorrhea, is, strictly speaking, a germ disease, the germ being called the gonococcus, the coccus of gonorrhea, or the gonococcus of Neiser. The name of Neiser is sometimes attached because it was Neiser who did so much to establish its identity. The gonococcus, the same as other cocci, is subject to the action of the various staining agents, methylene-blue being one of them. They absorb the stain taking on the color of the agent, thus rendering their detection under the microscope easier, but in taking up the stain they accomplish at the same time their own destruction, the coloring matter when absorbed being a sure curtailer of their future existence.

The toxic properties of chemically pure methylene-blue are not high. The maximum dose is 15 grains, and it is given off entirely by the kidneys, coloring the urine a deep blue. In this way what could be more beautiful and enticing than the internal use of methylene-blue to clear the cocci infected urethra? By using frequent doses of the drug and copious draughts of water a perfect fusilade against the subtle coccus can be kept up till he is completely routed, and with no distress to the patient; no irrigations, no injections, no nauseous mixtures, just a capsule three times a day with the resulting stream of beautiful blue, carrying death and destruction to one of the greatest enemies of mankind. How simple and fascinating! But let us look a little farther to see if the beautiful blue drug is justly entitled to its reputation.

In August, 1895, there appeared in the New York Medical Journal an article from the pen of Austin Flint on the treatment of filiaria sanguinis hominis with methylene-blue, and he here suggested the use of this drug in the treatment of gonorrhea, or, rather, its use as a prophylactic in gonorrhea in the male. At this suggestion some 1-grain capsules of Merck's chemically pure methylene-blue were secured, and the treatment of gonorrhea was about to be revolutionized. Unfortunately the notes of six recorded cases are not as complete as could be wished, but they will probably serve the purpose. The first four cases were of acute urethritis.

Case 1.—The patient was given a 1-grain capsule three times a day with copious draughts of water, which kept the urine a continuous deep blue, and as there was considerable cordee present 15 grains of potassium bromide were given at bedtime. No other drug was used. At the end of seven days there was no cessation in amount of discharge, and the patient developed a cystitis, and passed into the hands of a less progressive practitioner, but with evidently surer methods.

Case 2.—The patient was given a 1-grain capsule three times a day, and as there was some pain on urination 5 grains citrate of lithia were added to each glass of drinking water. At the end of ten days there was no perceptible change in the amount or character of the discharge, and treatment was changed in toto.

Cases 3 and 4.—These patients were given 1-grain capsules each, three times a day, the same as the former, but as there was no apparent result at the end of a week the treatment was forsaken for the time-tried injections.

Cases 5 and 6.—Methylene-blue was used in these cases as a prophylactic. Both patients had been on a spree, and were in fear of an infection from a suspicious sexual congress of the preceding night. They were each given 1 grain methylene-blue three times a day, and advised to drink freely of water. The urine was kept saturated for three days, at the end of which time one developed a discharge, the other escaping. It is needless to add that the one that developed the discharge was not treated with methylene-blue.

Why did it fail to reach these cases? Let us turn for a moment to the pathology of specific urethritis. The gonococcus upon coming into contact with a fresh urethral membrane immediately proceeds to penetrate the epithelial layer, and to pass on into the subepithelial connective tissue, causing a swelling of the epithelial cells and a turgescence of the mucous membrane with the discharge composed of broken down epithelial cells, leukocytes, gonococci, and mucus from the surrounding glands, the gonococci all the while propagating and reproducing themselves at a greater rapidity than the leukocytes are able to contend with.

Mark you, all their activity takes place in the epithelial cells—stratified cells in the immediate anterior extremity of the canal and columnar posterior to that—or in the subepithelial connective tissue beneath, and any agent to reach them must necessarily enter the epithelial layer or be secreted by the urethral mucous membrane. Methylene-blue does neither. It passes out of the system solely by way of the kidneys, and a solution of it hurrying through the urethra periodically is only going to wash out what is on the surface, doing nothing to the injury of the foe beneath, not even stopping long enough to deposit coloring matter to destroy the cocci on the surface.

Finally, why is the use of methylene-blue still persisted in? When a patient is taking a medicine that has an effect as perceptible to the eye, and produces as little distress as does the administration of methylene-blue, the mental impression is something great. And principally you will find that the methylene-blue as prescribed today is not given alone, but in combination with some of the older gonorrheal remedies, such as copaiba, cubeb, oil santal, oil nutmeg, etc., and the curative action can be attributed to some of the latter, and not to any virtue of the methylene-blue.

It is used solely because of its psychological effect, and not because of its value as a real destroyer of the gonococcus.

FOREIGN BODY IN THE URINARY BLADDER, WITH REPORT OF TWO CASES*

By M. C. Millet, M. D.

ROCHESTER, MINN.

A foreign body in the urinary bladder commonly means stone; especially is this true of the male, the avenue of entrance from without being less accessible than in the female. All vesicle calculi have a beginning,—a period of weeks or months in which they are small and usually freely movable. As such their detection by means of a sound or stone searcher is uncertain and often impossible.

Case 1.—Male, aged 20; first seen Nov. 4th, 1902. Patient stated that two months ago while in the field sitting at stool, he felt a severe itching in urethra. Patient was chewing gum at the time, and taking the gum from his mouth he molded it into a long pencil-like shape and slipped it into the urethra to allay the itching. In some way the gum escaped his hold and disappeared. Hastily grasping the penis in thumb and finger well back toward its base, he forcibly compressed the organ and stripped it outward, thus securing the gum. After examining the gum removed he concluded that all was well. Some hours later at the end of micturition, he passed a few drops of blood. The next day he began to have deep seated perineal pain and frequent micturition, the same symptoms persisting and gradually growing more severe up to the present time.

Urinalysis.—Sp. Gr. 1016; reaction, alkaline; a trace of albumin; no sugar. Microscopically a few red-blood cells and considerable pus found. Staining for gonococci and tubercle-bacilli gave negative results. The three-glass test of the urine showed urine uniformly cloudy in all. Was a part of the gum actually present in the bladder or had it produced a deep urethral infection which extended to the bladder? The patient had been recently sounded with negative results. The following day a cystoscopic examination was made, and the foreign body at once located. The gum had been moulded into an irregular outline, and was encrusted with urinary salts. In size and shape it resembled a small peanut shell. In addition to the foreign body, the cystoscope revealed a moderate inflammation of the mucous membrane, as evidenced by redness and velvety appearance, limited to the base of the bladder.

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*Read before the Minnesota Valley Medical Society, December 2, 1902.

CASE 2.—Male, aged 57; first seen Nov. 3d, 1902. Patient stated that some two years previously he had passed a small calculus per urethram, soon after a severe attack of colicky pain, vomiting, and so forth. Subsequent to this there was complete relief from all urinary disturbances up to three months ago. At that time, patient suddenly became unable to void his urine. The family physician was sent for and drew the urine. The same difficulty was experienced next day, and relieved as before. The patient was then provided with an instrument with which to relieve himself. At times micturition could be accomplished satisfactorily, except that at the end of the act the patient would experience severe pain in the glans penis; again, the stream would be suddenly terminated before the bladder was empty. At such times there would be dribbling and severe tenesmus. Patient soon found that by lying down, micturition could be performed with less difficulty, but at times even this failed, and the instrument had to be resorted to.

URINALYSIS.—Sp. Gr. 1020; acid reaction; no albumin; no sugar; an occasional pus cell, but no more than could be accounted for by the instrumentation.

The diagnosis lay between stone, a pedunculated tumor, and a valve-like hypertrophy of the median lobe of the prostate. The previous history of renal colic and passing of calculus favored the first mentioned. The acid urine free from blood and comparatively free from pus seemed rather to favor tumor or hypertrophy. All of the subjective symptoms could be accounted for by any one of the three. Digital examination of the rectum failed to demonstrate any marked hypertrophy of the prostate. Careful and persistent use of the metallic stone-searcher failed to discover a stone. The patient had been repeatedly sounded by his home physician with like results. The day following the examination, a stone was found lying behind the prostate, by means of the cystoscope. In size and shape the stone resembled very much the foreign body found in Case 1. With the stone in sight the beak of the cystoscope was made to strike it, but no click could be elicited as the stone, being so light and freely moveable, would bob off across the bladder like a cork. Of course it would immediately sink and rest on the base of the bladder, but the slightest touch would cause it to float away again. Repeated efforts to elicit a click served only to demonstrate the extreme improbability of having ever been able to make a positive diagnosis with a sound.

Nov. 9th, in St. Mary's Hospital, both were operated upon. By means of a small suprapubic incision, the foreign body was removed, and in each case the wound in the bladder was closed without drainage. Case 1 had a light infection and discharge from the space of Retzius, but no leakage of urine. Case 2 healed without complication in eight days.

The advantages of such a result, both immediate and remote, are very different from a case which has suffered for months and perhaps years from a vesicle calculus, where a prolonged drainage of the septic bladder is one of the disagreeable, though necessary features in the process of cure. To close such a bladder without drainage, if by any chance it remained closed, would but invite future stone formation.

The early diagnosis and removal of foreign bodies in the bladder will save much suffering, decrease the liability of secondary kidney involvement, do away with troublesome cystitis, and following operation, diminish confinement to bed from three weeks to ten or twelve days, and decrease the liability to after-coming hernia. To this end the cystoscope will often be found an indispensable aid.

ICHTHYOL IN RHEUMATISM

Post, in the Therapeutic Gazette, recommends the use of ichthyol in rheumatism, both of the acute and chronic type. In the acute he paints the joints with a solution of pure ichthyol, and covers them with cotton and oiled silk. In chronic rheumatism he employs 50 per cent ichthyol, which should be rubbed in vigorously.

PARAFFIN INJECTION IN A CASE OF DEFORMED NOSE

By W. A. Porteous, M. D.

MINNEAPOLIS

The correction of deformities, the result of a pathological condition of the face, is so important to patients that it is little wonder that efforts are continually being made to improve, if not to invent, new methods for the correction of such deformities. Among the most recent investigations and improved treatments, is the subcutaneous injection of a modified paraffin solution for modeling and restoring deformities about the face, and especially the irregularities of the nose, which may be the result of constitutional disease, local trauma, or ulceration.

In view of the great importance of this subject, I have deemed it worth while, and of considerable interest, to report two cases in which the results have been extremely satisfactory, not only to the physician, but markedly so to the patient, physically as well as mentally.

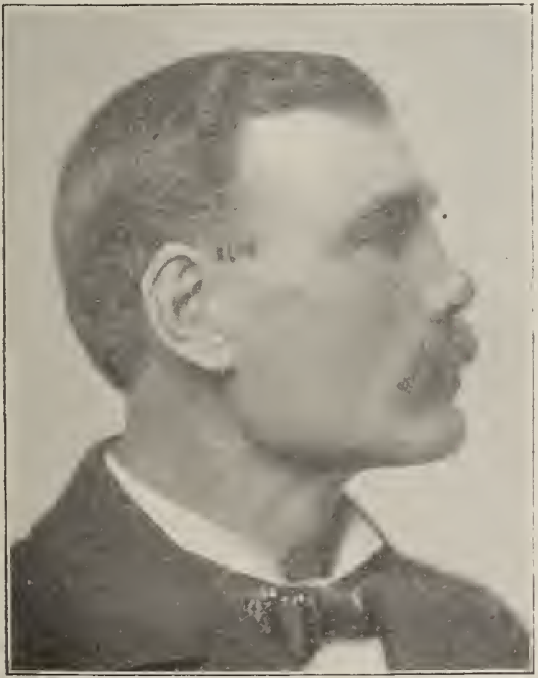

FIG. 1

The method pursued in the injection of the paraffin is that of Dr. Hormon Smith, of New York; and in this day of voluminous medical literature, for fear that his article may not have been brought to the attention of the medical profession in general, it may not be out of place to quote from Dr. Smith's paper, printed in the Medical Review of Reviews for September 25, 1902, giving a few of the important points of technique, before reporting the two cases to which I have referred. Some of the most important points are summed up in Dr. Smith's article as follows:

1. Thorough surgical cleansing of instruments, field of operation, and operator's hands.

2. Four minims of a 4 per cent solution of cocaine are injected at the point intended for entrance of paraffin-needle.

3. Thorough sterilization of paraffin drawn into syringe and allowed to cool to about 90° or 100° Farh., and the set-screw of specially devised syringe set and placed in position.

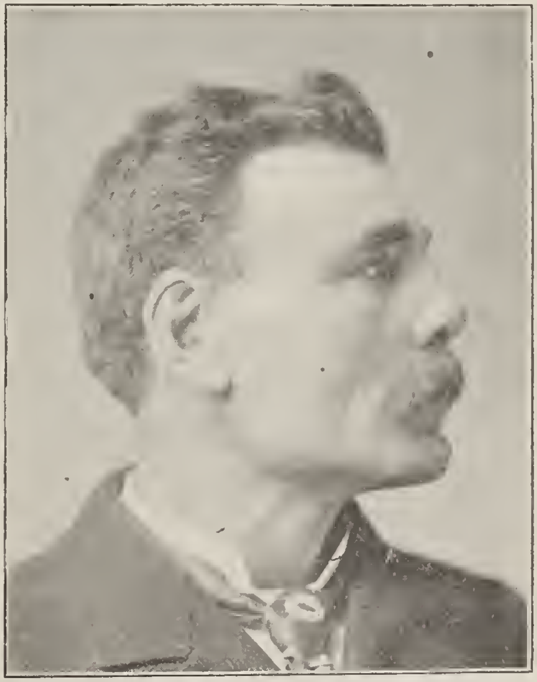

FIG. 2

4. Needle is introduced away from the point of greatest deformity, and its point carried forward slightly beyond this, being gradually with-

drawn as injection is made and the paraffin slowly injected.

5. As the pressure is felt beneath the fingers, moulding and smoothing the surface begins. This should be continued throughout the operation, thus preventing the paraffin from collecting in lumps, giving rise to an irregular surface; the point of entrance of needle should be closed with collodion.

Usually some swelling occurs the first twenty-four hours, but it is easily controlled by ice-cloth applications. The injection can be made without cocaine if the proper patient presents himself. A one-fourth of one per cent solution is all that is necessary in any case.

Some of the dangers of the operation should not be overlooked. Embolism is possible, but as yet no cases are reported, and the cooling of the paraffin before injection practically eliminates this complication. No slough or abscess is possible if surgical methods are properly observed.

Case 1.—Mr. F——, aged 40 years; family history good. When a boy he fell on the ice, causing a comminuted fracture in both nasal bones, and when union had taken place the result was a marked depression, giving a saddle-back appearance to the nose, as shown in Fig. 1. For this deformity some fourteen years ago the nose was operated on by one of our most skillful surgeons, but the result was unsatisfactory. Two years ago another operation was performed, but the result was unsatisfactory, and the case was referred to me for the correction of the persistent deformity and the results of the operations. The interior of the nose was first treated, and breathing-space fully established; the subjective symptoms thus being controlled. The deformity is well shown in the accompanying photograph (Fig. 1), which the patient was kind enough to have taken before the operation. The second photograph (Fig.2) was taken six weeks after the paraffin injection, and shows the result of the operation.

There was little or no re-action. Applications of ice were used for twenty-four hours. Pain was not marked. Patient followed his usual occupation.

Case 2.—A young lady. The deformity was the result of a mastoid operation. A marked depression over the seat of the operation, which was surely annoying and noticeable, was lifted flush with the surrounding skin surface, making a perfectly smooth and continuous flesh area.

From the limited experience of the above two cases one cannot advance a very positive opinion as to what will be the limit of this procedure, but the results are so successful that a continuation of its application in these distressing deformities is sure to bring relief to patients, and add one more success to our already rapidly advancing methods.

I take this opportunity to thank Dr. Geo. Eitel for his valuable assistance in both cases.

A FEW THOUGHTS ON RHEUMATISM OTHER THAN THE ACUTE ARTICULAR FORM

By G. F. Smith, M. D.

MEXICO, N. Y.

As the abarticular, the subacute, and the chronic forms of articular rheumatism are often so difficult to cure, or even to mitigate, any treatment of promise is considered worthy of notice. Many times, as is well known, nothing less than morphine will quiet the pain in these cases, the usual remedies in the acute variety being of little, if any, use. Hence, perhaps, the following cases with their mode of treatment will be of interest.

Case 1.—Miss A——, aged 26 years; family history good, no rheumatism. She stated that when eight years old she fell, injuring her spine, causing curvature and stiff neck, and also sustaining an injury of the knees. At the age of 21, as a result of exposure, she contracted a severe cold, followed by acute rheumatism. Since that time she has been troubled, more or less, with rheumatism of the joints. I found her with hands and wrists greatly distorted and several articulations ankylosed, suffering severe pain, unable to leave the bed, etc.

Aside from the general remedies seemingly indicated, including antirheumatics, I at last, not with the hope of much success, but for the sake of doing something, prescribed, with tonics, a typical shot-gun prescription, as follows: Tinctures of hyoscyamus, colchicum, bryonia, and aconite, of each 4½ drachms; fluid extracts of apocynum canabin, cannabis indica, rhus tox, belladonna, gaultheria, cactus grand., and cimicif. racemos, of each 1½ drachms; potassium iodide 1½ drachms; and morphine sulphate 4 grains. M. Sig.—Twenty drops, diluted, about 15 minutes before meals. Whether or not from the effects of the medicine, in a few weeks she was able to leave the bed, and soon after could walk, and do light work, which she had not done for some time. This condition lasted for some months, when she was again prostrated. I now ordered aspirin (a new derivative of salicylic acid) in connection with the above prescription, giving about 6 grains in capsule every three or four hours. She found that this would take the place of the morphine she had been using (⅛ grain), not only allaying the pain, but also relaxing the muscles and relieving the stiffness of the joints, giving a feeling of well-being and stimulation as though she had taken the usual amount of morphine. I cannot say that aspirin acted as a direct curative agent any more than the salicylates do in acute articular rheumatism, although I believe it does as much in these abarticular or chronic forms, where the salicylates are of no use, as the latter do in the acute conditions. Its action as an efficient substitute for morphine was especially gratifying. On several occasions since she has resorted to the remedy with similar results.

Case 2.—Mrs. F——, aged about 24; no rheumatic history in her family. Until about the age of nineteen she was healthy. About this time an attack of grippe occurred, followed by a multiple lymphadenitis and muscular rheumatism. This condition still persists. The salicylates were not tolerated; iodides, whether as syrup of iodide of iron, syrup of hydriodic acid, potassium iodide in solution or elixir, even in very small amounts, would quickly cause a disagreeable irritation of iodism, etc. For a time acetanilid quieted the the fauces and throat with other symptoms of pain, but after a few months, on account of unpleasant after-effects, it was abandoned. Heat and tincture of opium, which, unfortunately, perhaps, she knows too well, were all the remedies of avail for her pain. I then resorted to aspirin with like relief, relaxation of the muscles and joints, return of ambition, as in the former case. She still continues its use when needed.

Case 3.—A peculiar and obscure case. Male, aged 33, married, hard working farmer; no history of other than slight rheumatism in the family. The patient presented classical symptoms of acute muscular rheumatism which, however, failed to yield to any of the antirheumatics or to any other medication, although thoroughly tried, until he also received aspirin. Almost immediately improvement, especially relief of pain, commenced, and continued for two or three days, when the supply being exhausted and no more procurable for some time, he lapsed into his former condition. On resuming its use improvement was again noticed for a few days, regardless of the unfavorable weather. However, it did not last, the case rapidly becoming worse, finally terminating in very obscure symptoms, the most prominent being a passive pleural effusion, and ending in death. I mention the case to show the effect of the drug on the special rheumatic symptoms, until the condition seemed to change.

In some cases of neuralgia I have thought aspirin gave gratifying results, but generally they were indifferent.

In doses of 6 or 8 grains, either in powder or capsule (the powder seems preferable), given one in three or four hours, while needed, I have noticed no cardiac depression, nausea, derangement of digestion, nor restlessness. Occasionally it has caused unpleasant eructation of a soda taste, which was prevented, however, by giving it after food. Sometimes it causes sweating or an after-feeling of malaise.

Relief from pain is experienced, as a rule, about an hour after its administration, lasting three or four hours. While increasing doses at times are required, I have found no inclination to the formation of a habit.

In conclusion I would say that aspirin should be borne in mind as a potent agent, especially where the salicylates have proven inefficient, and in the chronic, subacute, and abarticular forms of rheumatism.

NORTHWESTERN LANCET

A SEMIMONTHLY MEDICAL JOURNAL

W. A. JONES, M. D.................EDITOR

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NEW YEAR'S GREETING

As the LANCET begins the work of another year, encouraged by the support it has gained from old and new members of the profession, it extends to all its readers congratulations and the best wishes for prosperity and success. The editor has been impressed with the material that has appeared in the journal, and, from the many friends who have expressed themselves, he believes the general articles have been of great interest and contained much original matter, which has been the means of inducing others to contribute to the success of the Lancet.

It is very easy for one who is inexperienced to offer criticism or advice,—and the editor welcomes both,—but it is quite another matter to conduct a medical journal to please every reader with every issue. The aim of the LANCET is to present articles of interest to the practitioner, particularly the man in general medicine; to add, if possible, to the advancement of medical science by the introduction of work, methods, and observation from men who have something valuable and instructive, to say; to issue a journal as free as possible from errors, typographical and constructive; to stimulate men to report their clinical experience for the benefit of others; and to maintain a sheet free from objectionable material.

To maintain this position, articles are requested and required, and the editor renews his invitation for material and support,—material that comes in voluntarily and is written with a purpose in view, i. e. information, suggestion, therapeutical, clinical, or pathological, based upon individual observation or research; and support from its readers in upholding the policy of the LANCET.

The editor is pleased to comment upon the loyalty and hearty co-operation of the publisher. Few appreciate the work in the publisher's hands, not his printed pages, but the work of preparation, arrangement, and the painstaking attention to details; the frequent revision and correction of copy and proof until it comes out clean and finished.

To the colaborators, personal friends, and reading friends, the LANCET returns thanks for the many courtesies shown, and it asks for a continuance of support and the same spirit of confidence that prompted the editor in the salutatory of last year.

In return for favors to be granted, the LANCET will endeavor to attain a higher plane in medical journalism by extending its work, protecting the interests of the profession, and adding to the body matter of reading in its columns.

Occasionally suggestions have been offered by a reader as to the advisability of presenting abstracts of other articles from domestic and foreign journals. This suggestion has been carefully considered, but not embraced, and the reasons therefor are many, but not worthy of presentation at this time. Although the LANCET'S exchange list takes it into Eastern and Western states and foreign countries, it is a local representative medical journal, embracing its own territory and the adjoining states, and publishes articles from men who are known, the ideas and aims of Minnesota men. Hence the matter must be of personal interest, publications of Western men who hope to add to the literature of medicine.

THE LANCET THE ORGAN OF THE HENNEPIN COUNTY MEDICAL SOCIETY.

The LANCET has been voted the representative organ of the Hennepin County Medical Society, and will attempt to keep in close touch with this growing body of medical men.

The Hennepin County Medical Society has one hundred and seventy-five members, and its new rooms are now scarcely large enough to contain its library, or to comfortably seat its members when in session. The papers of this society are worthy of every consideration, and the discussions will be presented with the publication of its papers. The exhibition of specimens and the reports of cases will be an interesting feature.

The LANCET congratulates itself upon the acquisition of new territory, and will faithfully maintain its trust.

SWEDISH MOVEMENT AND MASSAGE INSTITUTE.

Fifteen physicians of Minneapolis have organized themselves into a company, and have been incorporated under the laws of the state of Minnesota, under the above-mentioned title.

The institute has two large rooms in the new Dayton building on Nicollet avenue and Seventh street, equipped with apparatus, and qualified operators who will not only give Swedish movement and massage, but will furnish a course of instruction to those who wish to acquire the art. The general direction of the institute will be under the personal supervision of Dr. A. Lind, a practicing physician of Minneapolis, a graduate of Stockholm with a degree of Director of Medical Gymnastics.

A lady operator will be in attendance who has had the benefit of long training and practical experience. Physicians may send their patients to the institute with the full assurance that only trained manipulators and operators will give the treatments. The physicians who comprise the board of directors will see that everything is conducted on ethical lines, and the best results obtained.

It is the hope of the institute to send out a corps of operators who will practice under the direction of the attending physician, who will put Swedish movement and massage on a dignified plane, and who will be instructed that their work is not a cure for all diseases, but an adjunct to the work of the physicians.

CHRISTIAN SCIENCE'S LATEST BULLETIN

The edict promulgated by Mrs. Eddy, that "until the public thought becomes better acquainted with Christian Science, the Christian Scientist shall decline to doctor infectious or contagious diseases," must be a stinging blow to the healers. The New York Times says the "Temple of delusion has been blown to fragments by its own builder." The recognition of the existence of disease has pulled Eddyism up by the roots, and the dried roots will represent the evanescent character of the religious remnant. If contagious and infectious diseases are admitted, the cult must also admit that there is such a thing as diagnosis, and if they would investigate the "false belief" still further they would soon discover how difficult it is to differentiate between the various forms of contagion.

The order of Mrs. Eddy should include that other form of contagious disease, syphilis. Of course no believer in this fiction in the present state of civilization, could possibly accept syphilization as a fact. It would only be a dream—an unpleasant one.

One of the Minneapolis healers encountered a genuine case of syphilis with all of the unsightly eruptive features, and recognizing the untidiness of the skin promptly advised him to consult a physician, presumably for the reason that the special form of sin was more amenable to drugs than prayer.

When one considers the dangers of a contagious disease like diphtheria, is it not appaling to think of the possibility of a wide-spread invasion under the Christian Science management?

Doubtless the order of Mrs. Eddy is to protect her flock from conflict with boards of health and the disagreeable detention due to violation of health-laws.

The time will come when the people will demand the enforcement of the laws protecting the public health, and the various irregular practices and the sentimental opponents to the regulation of epidemics will be consigned to their proper sphere to meditate upon the errors of their ways, and their greedy acceptance of chance and unholy theories.

ANTIVIVISECTION

The antivivisectionists are evidently preparing for another attack or the renewal of an old fight in congress against physiologists and experimentalists. Dr. Keen of Philadelphia has written a personal letter to Dr. Gallinger in which he recites some of the teaching advantages of experiments on animals in locating the function of the brain areas.

His case was one of hemorrhage over the arm centre with a paralysis of the opposite extremity. He was able to definitely locate the seat of hemorrhage, and to expose and remove the clot after trephinization. The illustration is a striking one as it demonstrates the necessity of becoming more familiar with the centres in the nervous system, and particularly with the relationship of the skull and the underlying regions.

If the records of brain operations were classified, showing the accuracy of localization of known areas, the end sought would appear, and would justify the investigation of scientists in their humane efforts to advance the knowledge of obscure functions in the human or animal economy. The opponent would argue that the cause had been sufficiently established and that further vivisection was inhuman, cruel, and unnecessary; yet surgeons and internalists feel that we are only upon the threshold of investigation, and that there are many unexplored and unknown regions, which, if more perfectly understood, would be of material assistance to the surgeon and sufferer. It is well known that scientists are inflicting no actual cruelties in their investigations. Anesthetics, general or local, of chloroform, ether or methyl chloride, the subcutaneous or intradural injection of cocaine, prevent suffering of an unusual character.

The progress of science must continue, if sickness and disease are to abate. The history of scientific research and its benefits to mankind has been of incalculable value when one considers the advancement in diagnosis and treatment. The few animal lives that are sacrificed in physiological investigation do not begin to compare with the lives of animals slain by hunters and trappers in search of fur or sport. The agitation of the subject has accomplished some good, as there is now little if any brutality, and animals are not wantonly exposed to extensive operations without anesthesia.

Every physician and scientist should present arguments to his congressman to oppose the radical measures proposed by the antis. The public should be enlightened by the facts and the sentiment should be met by discussion and not by ridicule or abuse.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

R. O. Beard, M. D., Secretary

Stated meeting, Wednesday evening, December 3d, 1902, at the West Hotel, Minneapolis; the President, Dr. J. Warren Little, in the chair.

A paper entitled "The Treatment of the Hemiplegic State" was read by Dr. Arthur Sweeney, of St. Paul.

The discussion was opened by Dr. W. A. Jones, of Minneapolis. He commended Dr. Sweeney's paper and, in the main, agreed with his conclusions. He thought that not all contractures, any more than all hemiplegias, were due to the same cause. He advised long rest in all cases of hemorrhage. The disability of the hemiplegic was often due to a loss of memory for associated muscular movements. He believed in early massage in many cases. He objected to any irritation of the cortex incident to enforced voluntary effort. He agreed with Dr. Sweeney as to the value of electricity and massage.

Dr. Haldor Snévé, of St. Paul, said that he was much interested in Dr. Sweeney's explanation of flexor contractions, but suggested that the volume of the muscle might have to do with their relative force after central lesions, as the trophic centers may remain intact. He believed that treatment should vary with the causation of the paralysis. He recommended small doses of the iodide of potash as an aid to the absorption of the clot and of surrounding inflammatory deposits. He had seen good effects from its use in some cases. He should at first endeavor to promote the nutrition of the muscles and later to prevent deformity. He spoke particularly of the toe-drop and of the methods of teaching the patient to overcome it by taking short steps and keeping the well leg back of the centre. He advised passive motion of various joints, but would urge the patient to will the execution of movements. In some cases he had found bilateral associated exercises valuable. He referred to a case of spastic paraplegia with hemiplegia, supervening upon exercises and hydriatic treatment. The patient was now able to write, draw and get about fairly well. He said that hydriatic treatment was of great service in selected cases and that the diurnal bath should be insisted upon not only for cleanliness but for stimulation.

Dr. F. A. Dunsmoor, of Minneapolis, compared the condition of the brain in hemiplegia to that of a limb after nerve section and commended measures contributing to the nutrition of the part. He spoke of ligation of the middle meningeal artery for hemiplegia and suggested opening the skull in all threatening cases in an acute stage.

Dr. J. Clark Stewart, of Minneapolis, spoke of the results of tenotomies and tendon transplantation in various forms of deformity due to hemiplegia.

Dr. Arthur Sweeney closed the discussion. He referred to the prevention of shoulder-joint inflammations due to hemiplegia by support and passive movements. He questioned whether passive movements produced any cell action in the cortex.

Upon motion, the Academy adjourned.

HENNEPIN COUNTY MEDICAL SOCIETY

F. A. Knights, M. D., Secretary

A stated meeting of the Hennepin County Medical Society was held December 1, 1902, at the library, Dr. J. W. Bell, president, occupying the chair, about 45 members being present.

Dr. A. R. Brackett, of Charles City, Ia., being present as a visitor, was invited to join in discussions of the evening. The Committee on Certified Milk Supply reported by Dr. L. A. Nippert, chairman, as follows:

Mr. President,—Your Committee appointed to look to the establishment of a certified milk supply for infants and invalids, desires to submit the following report:

In order to obtain a safe milk supply we believe it necessary—

1st. To have barns built on hygienic plans with modern devices to prevent contamination of the milk during the milking, cooling, and distributing process.

2d. To exclude from such dairies all cows not inspected and not tested with tuberculin.

3d. To frequently inspect barns and cows, also the manner of feeding, and care of the milk.

4th. To require the percentage of cream to be not less than 4 per cent.

5th. To make, at regular intervals, a qualitative analysis and bacteriological examination of the milk.

6th. To distribute the milk in bottles sealed at the dairy with some distinctive label or trademark.

Basing our estimate on the cost of such milk in Eastern cities, we believe that in this city it should be sold for not less than 8 to 10 cents a quart in order to bring a fair return to the producer.

To enforce these regulations it is necessary to employ an inspector, a chemist, and a bacteriologist, the services of whom in other cities are paid by the dairymen themselves. Through the good offices of the Secretary of the State Board of Health, Dr. H. M. Bracken, that Board has expressed its willingness to establish a standard for certified milk, and to take charge of the inspections of dairy barns, cows, and methods of handling the milk without expense to the dairymen, certificates to be issued by the Hennepin County Medical Society through a permanent milk commission appointed by this society.

The City Board of Health through its Health Commissioner, Dr. P. M. Hall, has given assurance of its hearty co-operation and its willingness to endorse the plan as suggested.

The Committee, therefore, proposes the acceptance of the proposition of the State Board of Health and the appointment of a permanent milk commission by this society.

This report was accepted by motion. In reply to question Dr. Bracken stated the Ramsey County Medical Society is taking similar action.

It was moved by Dr. Head that the appointment of the commission recommended be made by the president, and such was taken as the sense of the meeting.

The Literary Committee, Dr. Head, chairman, reported, urging members to donate periodicals of all sorts, bound or unbound, and especially old volumes to complete files.

The applications of Dr. Florence C. Baier, P. & S., '97; Dr. Fred'k A. Erb, U. of M., '02; and Dr. H. N. Orton, Rush, '79, were read and referred to the Censors.

The Executive Committee reported by Dr. Weston that as it is necessary to have annual meetings in January officers should be nominated at this meeting.

The Committee appointed to revise the constitution and by-laws made a full report which was to come up for consideration at the next meeting.

Dr. J. W. Little moved that the Northwestern Lancet be designated as the official organ of the Society, and the motion was carried without debate.

Dr. W. A. Hall moved that all the present officers be nominated to succeed themselves. The president attempted to decline nomination for himself, but was promptly overruled, the motion carried.

Dr. Head proposed an additional by-law concerning death of members, which was referred to the revision committee.

Dr. W. A. Jones' paper, "Insanity from Autogenic Poisoning," brought out discussion by Drs. Head, Nippert, Brackett, Hunter, Thomas, Hall, Sweetser, Strout, Benjamin, McDonald, and Rutledge. The discussion was closed by Dr. Jones.

THE MINNEAPOLIS PATHOLOGICAL SOCIETY

A. T. Mann, M. D. Secretary

The regular meeting of the Society was held Monday evening, November 17, 1902, at the University Laboratory, the president, Dr. L. B. Wilson, in the chair.

Dr. A. W. Abbott presented sections of Fallopian tubes, both from the human subject and from the gopher, together with camera lucida drawings of the same. His purpose was to show that Fallopian tubes probably have some of the functions of an actual gland structure. The sections showed gland-like spaces opening into the lumen of the tube, some of which in their deeper portions were outside of the circular muscle fibers of the tube. Serial sections showed that these spaces were enclosed except at a small outlet into the tube. These gland spaces are not constant in number or in position, and in some tubes they are not present. When present, however, they resemble very much the uterine glands as the collumnar epithelium is identical, and the secretion is similar. His specimens went to prove Bland Sutton's position, that the Fallopian tubes are gland structures.

Dr. Schwyzer of St. Paul presented three specimens. The first was a prostate, removed by him, which showed, apparently, small distinct fibroid masses. The modern position is that the enlargement is a glandular hypertrophy with a thickening of the connective tissue about the individual glands, due to inflammatory changes. This, he said, was hard to believe in the presence of his specimen. However, he remarked that sections of his specimen had not yet been made, and they might show the enlargement to be merely the product of inflammatory changes.

The second specimen was a cystoma of the testicle. Sections of this specimen had not yet been cut. He thought that it may possibly be a teratoma.

The third specimen was a much thickened and enlarged appendix with three pockets and with walls looking much as though they were of a new growth of tissue. Sections showed hypertrophy of tissue with ramification of glands suggesting transition from an inflammatory granuloma toward a neoplasm, such as is sometimes seen in rectal growths. The mass was 3½x2x1½ inches, with creamy pus in some cavities and an enterolith ½x⅜ inch.

Dr. Rothrock presented specimens from a case of probable acute yellow atrophy of the liver. Notes on the case were not complete on account of lack of observation. Dr. Rothrock saw him only once, and the patient died the third day afterward, under the care of another physician. The patient was a negro youth of fairly good physique. The initial symptoms were those of catarrhal jaundice, malaise, slight fever, coated tongue, nausea, vomiting, and jaundice, and later nervous symptoms developed, i. e., headache, delirium and stupor.

Sections of the liver presented showed some places in which whole areas of the liver had been destroyed; some areas with cells in a marked stage of degeneration, containing grandular detritus, with only a faintly staining outline of the cells; some areas with the outlines of the cells all lost and showing hematoidin crystals, and bile pigment with fat crystals and detritus; some areas with bile stained liver cells. Distinct leucin and tyrosin crystals were not seen. Sections of the kidney showed considerable round-celled infiltration about the tubules and glomeruli, and some destruction of blood-cells.

Dr. White presented sections of a carcinoma of the external auditory meatus. The patient, aged 35, had had a discharging middle-ear disease since the age of 2 years. About two years ago unilateral facial paralysis developed, and a mastoid operation was performed. Some tissue-like granulation tissue was removed. Afterwards the growth spread and infiltrated the surrounding parts. Now there is a cauliflower growth over a considerable area on the surface of the dura. Some of the masses have sequestra of bone which have been eroded.

The stained sections showed processes and masses of cylindrical cells on a connective-tissue base. These cells were radially arranged on the surface, but more irregular below. Sometimes there was a lumen as in gland structures, and sometimes only an attempt at a lumen. Dr. White's diagnosis was cylindrical-celled carcinoma, probably from one of the cerumenous or sebaceous glands of the external auditory meatus. The type, he thought, was much nearer the rodent ulcer type than the other types of carcinoma.

Dr. White also showed growing cultures of Friedländer's pneumobacillus, ten in all, and another specimen showing gas formation by the bacillus. These cultures were taken from the sputum of a pneumonia case under his care.

Dr. Chowning showed sections of an epithelioma from the ear or external auditory meatus of a patient, aged 29, who had had a discharge from the middle ear ever since the age of six. Six months ago the patient was operated upon under a diagnosis of actinomycosis, but the sections clearly showed carcinoma. The patient showed facial paralysis of the same side, and a cauliflower mass involving the lower third of the ear and which spread like a funnel about the external auditory meatus.

Dr. Chowning also presented slides showing the spirillum of Vincent, taken from the sore throat of a medical student while examining for the presence of diphtheria. It seems that there has been reported only one other case in this country showing the spirillum of Vincent. Mayer has an article on this subject in the February (1902) issue of the American Journal of Medical Sciences.

Dr. Wilson presented a wire ⅛ inch in diameter and 4 inches long which had been in a man's bladder for three years. The bladder was very tolerant, and there had been surprisingly few symptoms. There was an aggregation of phosphates near one end for about one-third the wire's length. This wire was inserted by a sleight-of-hand performer into his own urethra, and it slipped away from him. Dr. B. W. Parrott, of Long Prairie, removed the specimen, and sent it to Dr. Wilson.

Dr. A. T. Mann presented specimens from an extra-uterine pregnancy, and from an osteo-arthritis at the hip, both of which were operated upon by Dr. J. E. Moore with Dr. Mann's assistance. The specimen from the first case was interesting because it showed a hematosalpynx of one tube, originally distended to the size of a medium-sized sausage, and an ovum still present in the tube of the opposite side, which had ruptured with hemorrhage into the peritoneal cavity. A history of the case, in brief, is as follows: The patient, aged 21, married three years, had had one miscarriage seven months ago. Six weeks ago she missed one period, and one week later had sharp, tearing pain in the left side of pelvis, and the usual symptoms of an extra-uterine pregnancy with rupture. She was put to bed. The pain continued in a modified form, pretty constantly until the time for the next period when there was hemorrhage from the uterus *per vaginam* more than for a normal period, and renewed signs of a ruptured extra-uterine, and after a moderate delay the patient was brought to the city for operation.

The hemorrhage from the uterus is not uncommon, and results from a shedding of the decidua, which has developed there. A hemorrhage into the tube on the side opposite to the extra-uterine pregnancy is not at all common. To explain this we have first the unlikely possibility of an extra-uterine in both tubes, simultaneously developing, with hemorrhage first from one and later from the other. We have for a second explanation the unaccountable fact that a decidua sometimes develops in the tube on the opposite side from the pregnancy, and a shedding of this would cause hemorrhage here just as the shedding of the uterine decidua causes hemorrhage from the uterus.

The second specimens presented by Dr. Mann from the case of osteoarthritis at the hip, were an osteophite from the joint, and the excised head of the femur together with the greater portion of its neck. The osteophite was an irregular, rough piece of bone and cartilage 1¾x1½x½ inch, found entirely loose in the joint, and had probably developed from the edge of the acetabulum. The portion excised with the head was interesting. The cartilage on the articular surface was rough and thickened in places from overgrowth. At the places of joint pressure the cartilage had been entirely worn away, and the head of the bone polished as smooth as ivory. In places this was mottled with chocolate color from blood coloring matter. The edge of the articular cartilage was greatly overgrown in places and overhung the neck. It showed bone-formation in part of the new growth. The neck of the femur was greatly thickened. In one place a large sessile mass looked much like a trochanter on its surface. The general density of the bone seemed increased. At the operation the acetabulum was felt to be considerably broadened as from an outgrowth of the cartilage at the rim with more or less bone deposit in it, a process which probably went hand in hand with some absorption and flattening of the original edge of the acetabulum.

BOOK NOTICES

Diseases of the Eye. A handbook of ophthalmic practice for students and practitioners. By Geo. E. de Schweinitz, A. M., M. D. Professor of Ophthalmology in the University of Pennsylvania, etc. With 280 illustrations and six chromolithographic plates. Fourth edition, thoroughly revised. Philadelphia and London: W. B. Saunders & Co.

This is the fourth edition of this excellent work on the eye. Certain chapters have been rewritten and others added so that the book is right up to date. The arrangement and classification is good, and the text is written in this author's characteristic, direct style, making one feel that there is authority back of all that one reads. The book is characterized by its conciseness, and yet everything important is fully explained.

The chapter on "Skiascopy" is written by Dr. Edward Jackson, one of the most eminent authorities upon this subject. Dr. Jackson is right at home when discussing this subject, and in a few words has given a comprehensive explanation of this method of determining the refraction of the eye.

There are a great many illustrations, and some almost perfect colored plates, representing ophthalmoscopic pictures painted from the actual cases by Margaret Washington, whose ability in this direction is known to every reader of ophthalmic literature.

The book is one that should be in the library of every ophthalmic surgeon, and the general practitioner can not purchase any single book on the eye which will be found more satisfactory for his use.

Frank C. Todd.

Diseases of the Nose, Pharynx, and Ear. By Henry Gradle, M. D., Professor of Ophthalmology and Otology in the Northwestern University Medical School, Chicago. Illustrated. Philadelphia and London: W. B. Saunders & Co.

The above volume is divided into two parts, the first taking up the diseases of the nose and pharynx, and the second part treating of the diseases of the ear. The work is well written, and the cuts are excellent, especially those illustrating the surgical anatomy.

As stated by the author in the preface, this volume is intended to present diseases of the nose, pharynx, and ear as the author has seen them, giving an experience of twenty-five years; and the results of that experience are presented to the reader in a clear and concise manner.

In the therapeutic part the author mentions only those procedures that have proven to be of the most value in his clinical experience, which is a welcome exception to the therapy as presented in the majority of text-books where the student is given his choice of a long list of remedies.

The chapter on the influence of nasal and pharyngeal affections upon other parts of the organism gives a good description of those various reflex neuroses which may be the result of some affection of the nose or pharynx.

The portion of the volume devoted to diseases of the ear is somewhat condensed, and this is especially true of the operative work, the description of the mastoid operation, for instance, on account of its brevity and lack of minor details, being likely to mislead an operator inexperienced in this form of surgery.

The volume, while not intended to be an exhaustive treatise on the above subjects, takes up each disease thoroughly and concisely, and is to be recommended to both student and practitioner.

Wm. R. Murray.

CORRESPONDENCE

Owatonna, Minn., Dec. 10, 1902.

Editor of the Northwestern Lancet:

I was very much interested in your editorial article, entitled "Tuberculosis Congress," which appeared in the Lancet of November 1st. In that article you say:

"There is a general and earnest effort, that is in itself contagious, to stamp out needless disease. Minor details are at work, but more heroic measures must be enforced. The State Board of Health, the State Sanitary Association, and the committee of the State Medical Society have done a great deal in the way of a beginning to bring the subject before the public.

"If some means could be devised to secure a fund for this purpose, the state and municipal authorities would gladly lend substantial aid. State laws would be enacted, and a vigorous crusade established."

There is no questioning the pertinency of this statement. Now, how can such a fund be raised? It would seem to be a very simple matter if the proper steps were taken. The State of Minnesota is, I believe, considered one of the most progressive states in the Union. Particularly is this true in medical matters and the welfare of the people. It is a fact that no other state is spending money so freely for asylums, reformatories, schools, etc., with a view to betterment of the people.

Were our Committee on Medical Legislation to make a request of the State legislature to appropriate a reasonable sum each year for this purpose, (this request to be backed, of course, by the medical fraternity of the State), it would seem as though there would be little trouble in accomplishing the desired object.

As the years went by, and the good results of the expenditure of such money were demonstrated, there is no question but this annual appropriation could be increased.

It strikes the writer that it would be a very proper thing for the Minnesota Sanitary Conference to take the initiative in this matter.

Of one thing we may be certain: Results cannot be obtained without effort. That the matter in hand is worthy a pronounced effort, is beyond question.

Theo. L. Hatch.

AMERICAN ROENTGEN RAY SOCIETY

Sherman House, Chicago, Dec. 11, 1902.

Editor Northwestern Lancet:

The interest now taken in the x-ray by the profession has been manifested in the large attendance at this meeting and the addition of about eighty new members to the society.

The manufacturers' exhibit has been quite complete and instructive. Among the more recent features are multiple-spark gaps for more strongly exciting the Crooke's tube with the static machine, mercury and electrolytic interrupters that with the induction coil throw a solid stream of sparks and reduce radiographic exposures to seconds, self-regulating tubes that can be raised or lowered at will and the target kept cool by metal jackets or water-cooling devices.

Considerable time was given to skiagraphic technique, and some very fine skiagraphs were shown. In the difficult diagnosis of calculi the x-ray is proving very helpful, and by using a low-vacuum tube actuated so as to differentiate between tissues less dense than the calculi, even a negative diagnosis can be made. There were good pictures shown of stones in the kidney, ureter, and bladder, and also of false teeth in the stomach.

One writer's experience with the collapse of a high-vacuum tube causing injury to the patient by the particles of glass, points to a possible danger to be avoided.

In the matter of treatment with the x-ray continued experience makes it more certain that superficial malignant growths are to be controlled by its use. One case reported, which was unsuccessful until a taint of syphilis was discovered and then yielded to the *x*-ray combined with medication, points to the necessity of a thorough study of each case.

In internal cases the history brought to date of cases previously reported, together with the reports of cure in two cases of laryngeal, one of uterine, and several of breast disease, together with a few remarkable results in sarcoma is encouraging.

One man gave quite a series of tubercular cases that had been treated successfully, and the discussion showed that several others were working along the same line.

Dr. John B. Murphy read a paper giving his experience at Mercy Hospital, especially in the treatment of chronic sinuses, which heal very rapidly under the *x*-ray, and tuberculosis of the spine. He had cured the latter cases even when the foci were pressing upon the spinal cord sufficiently to cause paraplegia.

The active participation of the surgeon in the discussions and experiments of the *x*-ray worker is an encouraging sign, and seems to point to a new era in the treatment of malignant disease, in which the *x*-ray worker will realize the necessity of operation when possible, and the surgeon will see to it that his operations are followed by a series of *x*-ray treatments.

Very truly,
W. P. SPRING.

NEWS ITEMS

NORTHWESTERN NEWS

Dr. J. E. Butz, of Meservey, Iowa, has located in Alden, Minn.

Dr. Jacob Kussart, of Eddyville, Iowa, has located in Park Rapids, Minn.

Dr. E. S. Platou, formerly of Christiana, Norway, has located in Sioux Falls, S. D.

Dr. George W. Wood and Miss Nellie Grant, of Faribault, Minn., were married last month.

Dr. Milton F. Merchant, of Ellendale, N. D., will spend the winter in Chicago in special study.

Dr. L. A. Davis, of Dalton, Minn., was married to Miss M. C. Staples, of Howard Lake, last month.

Dr. J. H. Rishmiller, of Minneapolis, was recently elected Professor of Clinical Microscopy in Hamline.

Dr. W. H. Bates, an eye, ear, nose, and throat specialist, of New York City, has located in Grand Forks, N. D.

Dr. A. C. Baker, a recent graduate of the Northwestern University, has begun practice in Fergus Falls, Minn.

Dr. C. P. Dolan has returned to Waterville, Minn., where he has a large circle of friends, to resume his practice.

Dr. George N. Butchart, who has been absent from Hibbing for a year, has decided to return, and resume his practice.

Windom, Minn., is talking hospital, and the Catholics of the city are ready to take charge of the work that falls to laymen.

Dr. B. H. Haynes, of St. James, Minn., is home from Chicago where he has been for several weeks, engaged in special study.

Dr. J. S. Cross, of Rochester, N. Y., has gone with his family to Vienna, where he will spend a year in the study of internal medicine.

Dr. N. K. Whittemore, of Elk River, Minn., is taking an extended vacation in Itasca county, and is holding down a claim for pastime.

The Minnesota Sanitary Association, whose annual meeting was held last month in St. Paul, elected the following officers for next year:

Dr. L. D. Peck, of Rochester, Minn., has decided to remain permanently in Hastings, and he now occupies the office of Dr. J. E. Finch.

Dr. J. E. Finch, one of the oldest physicians of Hastings, Minn., who has practiced there since 1856, has decided to return to Ontario, Canada, and spend the remainder of his days there.

Wadena, Minn., is alive to the necessity for and advantages of a hospital, and it is probable that with the encouragement the citizens promise the physicians, the city will have a first-class hospital within a few months.

The St. Louis County Medical Society has taken in the physicians of Lake, Cook, Carlton, and Itasca counties. This will give Duluth a strong society, and be a great advantage to the physicians of the other counties.

President, Dr. Burnside Foster, St. Paul; first vice-president, Dr. W. B. Patten, Duluth; second vice-president, Dr. E. D. Keyes, Winona; secretary, Dr. E. H. Bayley, Lake City; treasurer, Dr. Frank Corbett, Minneapolis. The executive committee is Dr. A. C. Rogers, Faribault; Prof. G. B. Frankforter of the State University, and Dr. Henry Hutchinson of St. Paul. The next meeting of the association will be held in Minneapolis.

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FRACTURES OF THE SKULL*

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MINNEAPOLIS

Skull fractures have little in common with other fractures. Almost all the problems which they present, whether as regards diagnosis or treatment, hang upon the injuries or complications involving the brain or its membranes, the blood-vessels, or, in lesser degree, the external soft parts. A head injury without fracture may present identically the same problems as one with fractures. On the other hand, simple fissures of the skull may not be possible of positive diagnosis. In a large proportion of these cases the question of the presence or absence of fracture is of entirely secondary importance. In all cases it is the brain, membranes, and blood-vessels which should receive our chief solicitude, and from first to last should be guarded and protected. The bone lesion is usually only of incidental importance; in many cases it takes care of itself; in most cases only very ordinary common sense is required in dealing with it, per se; exceptionally, when large areas of skull are involved, the simple precept to save as much bony protection as is consistent with the conditions is sufficient so far as the fracture itself and the immediate present is concerned.

But when we come to take into consideration the real problems, the injuries to the external soft parts, and especially of the brain, membranes, and vessels, the diagnosis, prognosis, and treatment are vested with difficulties demanding caution, close observation, skill, and experience. It is therefore best to study head injuries as a whole, and in categories based upon symptoms; and doing so, we find certain principles which may guide us, if not infallibly, yet approximately, in doing all that the present state of surgical science may do in these injuries.

Examination.—Of first importance in head injuries is a careful examination. This should take into consideration—

a. The character of the injury.

b. The general condition as to pulse, pupils, consciousness, nerve symptoms, etc., which should from time to time be recorded, since such data are of the greatest importance diagnostically when reliable, and may be studied in detail.

c. The local examination as to external wound, contusions, depressions, wound peculiarities, and reaction to local pressure, etc. For this examination in all injuries at all serious it is desirable to clip or shave the whole head. Some sense is of course necessary in this by no means small matter. In a woman a slight contusion, an insignificant scalp wound, or a simple fracture need not lead to a shaving of the whole head in every case, while in laboring men where matters of great moment, such as subsequent litigation, may arise, clipping or shaving solely for the purpose of very careful examination is wise. On the other hand, in all compound fractures, punctures, by gun-shot and otherwise, complete shaving should never for a moment be omitted. Even in scalp wounds of much extent shaving is imperative. After shaving, a most thorough cleansing of the scalp should follow. This disinfection may be accomplished by various methods. The important thing is that it be thorough. The wounds are carefully irrigated with sterilized salt-solution, ragged edges trimmed, cleansed, and perhaps swabbed out with antiseptic solutions, which should not be allowed to come in contact with brain or membranes. In case there is suspicion of fracture communicating with the nose or ears, these cavities should be carefully cleansed with warm boric acid solution, and plugged with absorbent cotton. Simple scalp wounds should be dealt with upon the general principle of modern surgery.

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*Read before the Minnesota Valley Medical Society, December 2, 1902.

After such an examination and notation of general conditions, and the dressing and protection of lesser lesions in all head injuries which, from the character of the injury, from local conditions found, or from present general state, may be regarded as possibly serious, the patient should be put to bed, kept quiet, and carefully watched, and the progress of symptoms noted as they arise. The period of rest and medical supervision of head injuries cannot be arbitrarily set. Safety lies in making it a little too long rather than too short. I have seen many bad late conditions arise which were probably in large part due to want of proper rest and quiet after head injuries. I believe the rule given by Scudder is wise. He says: "All cases of injury to the head, even cases of simple non-depressed fracture of the skull without symptoms, are to be watched with great care by trained observers for at least one month following the accident, and then are to be seen at intervals for many months afterwards." Hemorrhage may develop in the immediate future, and brain abscess may occur months afterwards.

RULES OF FURTHER PROCEDURE.

1. Compound fractures are readily diagnosed by proper enlargement of the wound, and practically all compound fractures should be trephined. Of course one may meet with cases of scalp wound and simple fissure of the skull without focal symptoms, in which there is no probable necessity for opening a skull which is simply cracked, and I would make some such cases the rare exception to the general rule to immediately trephine all compound fractures.

2. In simple fracture with appreciable depression, if the head be shaved and one guards against the deceptive feeling of certain subaponeurotic effusions, the detection of depression is not difficult. Pressure upon the abrupt edges of such an effusion causes it to pit to the line of the neighboring bone, and illusion is rarely more than momentary in the mind of the careful examiner. Having detected an appreciable depression, I think the rule should be to trephine, although there is not always the necessity for prompt interference which exists in certain other cases, e. g., compound fracture and intracranial hemorrhage. It need not be made an emergency operation. If arrangements are perfect it may as well be done at once; if not, as soon as ideal conditions may be secured, the depressed area should be explored. True, the depression itself is not of much consequence, but it is the possibilities of hidden mischief, such as penetration of the brain by spicules of the internal table, etc., that justifies the proposition to regularly trephine cases of depressed fracture. The more limited the area to which the fracturing force is applied the greater the probabilities of serious damage to the vitreous plate and to the cranial contents.

So far the operative indications are comparatively simple.

a. Careful asepsis, not only as regards operative technique, but through removal of sources of infection and establishment of favorable conditions of resistance in the system and in the wounds, and the protection of all avenues through which infection may enter to the membranes and brain.

b. The removal of all sources of irritation, such as foreign bodies, pieces of bone, and blood clots, and the elevation of depressed fragments.

c. So far as practicable, careful suture of the dura.

d. The conservation of the periosteum and of all large pieces of skull still sufficiently attached to the pericranium to insure their vitality.

e. Closure with or without drainage. Drainage is called for when conditions are such that much oozing or hemorrhage is likely to follow; then it may often be of a temporary nature. In absolutely clean wounds made by the surgeon this is the only reason for draining. When the nature of the wound is such that infection is to be feared drainage is also indicated. In most compound fractures a small temporary safety-valve is prudent. For these purposes a few strands of silk-worm gut, a small wick of gauze, or a larger gauze packing, according to the conditions, suffice. The simple instruments of the old operating-case, a small trephine, elevator, chisel, various bone and other forceps suffice. About the only question that might be debated is as to the advisability of attempting to at once relieve this skull defect in some rare cases where much bone has been separated or necessarily removed. The fragments might be in some instances reapplied, or celluloid or other substitutes incorporated.

As a primary procedure in skull fractures this question, I think, need scarcely be considered, because, first, if the bone loss is from the injury conditions are rarely favorable for auto- or hetero-plastic operations. Infection sufficient to insure failure is very liable to follow with results on the whole less favorable than are to be hoped for from the more rapid and unirritated healing.

3. Perhaps the most important question in connection with skull fractures concerns internal hemorrhage. Many victims of ruptured meningeal artery still go to their eternal sleep, some in hospitals and surrounded by surgeons. In its simpler forms this is an entirely preventable cause of death. Of course not rarely there are other lesions in themselves probably or necessarily fatal, so that we can not hope to save all cases. When a victim of simple ruptured artery is allowed to die, it is surely a surgical disgrace. When the complicated cases are allowed to die without an attempt at relief, it is clearly bad surgery. The greatest difficulty is diagnostic. To be sure, exceptional cases are simply beautiful in their progressive phenomena,—the free interval, the distinct focal paralysis, slowing pulse, gradually disturbed consciousness, and all. Strange to say such rare cases, by some peculiar conjunction of rare events, are rather liable to fall into the hands of the very rare practitioner who fails to recognize so simple a condition plain as elementary physiology. No qualified practitioner could mistake the diagnosis or fail to appreciate what should be done. But how rare in practice are these cases so beautiful to describe! In practice, alcoholism, complicating lacerations and contusions of the brain, severe concussion, and defects in the history of the case before coming under the surgeon's observation, often so obscure the phenomena of intracranial hemorrhage, as according to physiology they should occur, that the most skillful are liable to be deceived. The autopsy is often a great surprise. This is why I have so strongly emphasized the importance of carefully observing and making a record of all the phenomena, especially of the pulse, the pupils, and the mental and nervous symptoms in head injuries from the earliest possible moment until all the possibilities are cleared up. If it can be shown by a study of the symptoms that intracranial hemorrhage is going on, prompt interference is demanded. There are two objects in view:

a. To remove the clot, which, if large enough, will surely snuff out the life by pressure, or, if bleeding stops spontaneously before this occurs, is liable to lead to serious secondary trouble, cyst formation, etc.

b. In case of larger vessels to secure them.

If after a head injury the evidences of intracranial pressure appear and we can get some fairly definite hint as to which side the effusion is on, an exploration is the safest plan. Of course, if the hemorrhage be subcortical or intraventricular the prognosis is very bad, and the operation of little avail. There is no other way to differentiate with any certainty extra- and sub-dural hemorrhages which are so amenable to treatment.

Having recognized the existence of intracranial hemorrhage and the hemisphere involved, there is little question of the propriety, even necessity, of operative interference; but then arises a very great question as to the proper methods of operation. The forms of hemorrhage in which most may be accomplished are the circumscribed extra- or sub-dural clots. The chief object of operation in most cases is to remove the clot, the exact location and extent of which are usually not very accurately known. In some cases it is necessary to also double ligate the vessel; if this were as a rule necessary, the trephine opening would be very inefficient. Krœnlein, with many other surgeons, holds to the classic trephining. Wagoner and many others, particularly Dr. S. C. Plummer, of Chicago, advocate strongly the osteoplastic skull resection. Personally, I think something may be said for each operation under different circumstances and in different cases.

Anatomical considerations and practical experience, indicate that an inch trephine opening placed one and one-fourth inches behind the external angular process at the level of the upper border of the orbit, reveals the clot in the vast majority of cases; or, in case this fails, the trephine applied again just below the parietal boss reaches the posterior branch of the artery.

Krœnlein divides supradural hematomata into diffuse and circumscribed, and the latter into anterior, middle, and posterior, corresponding to the chief branches of the artery; and, as will be seen from his diagram, these two trephine openings reach more or less directly the effusion. There are advantages and disadvantages in this method of operating. If we succeed in at once reaching the clot and relieving the situation, the operation is less formidable, performed with ordinary simple instruments, and is, in the hands of the general practitioner and occasional surgeon, undoubtedly the best. Its disadvantage is that, unless the hole is often much enlarged, it is inadequate to thorough detection and removal of the clot, and especially to double ligation of the vessel, should that be necessary. When only the trephine opening is made, the defect in the skull is ordinarily of no great consequence, at least not greater than some of the possible complications resulting from osteoplastic resection; but when further enlarged as is sometimes necessary, the loss of bone tissue becomes a serious objection.

Of the Wagnerian method it may, I think, be said that it is the ideal method. It gives a much larger field of exploration, and allows of a closure of the skull without serious loss of bone. Its skillful execution requires much operative experience and special instruments, preferably electric saw, etc. Under ideal conditions it is the ideal method for exploring the intact skull. After some experience with both methods I do not feel that either can be laid down as the one to be exclusively followed. Different cases and different circumstances render both methods still useful.

4. The question of exploratory operation in certain cases in which hemorrhage may be suspected as a factor in the uncertain and complicated condition in which no localizing signs whatever can be demonstrated, often arises. After severe head injuries, it not rarely occurs that the ordinary symptoms of profound concussion do not clear away, and no definite focal symptoms at any time appear. I have known many cases in which it was from one to three weeks before consciousness fully returned, the symptoms indicating severe contusion and laceration of the brain, perhaps with more or less extensive fissuring of the cranium, and very likely accompanied by more or less diffuse hemorrhage. Several such cases recovered, either fully or with but slight symptoms of cerebral irritation following. Others of course have died without regaining consciousness. Some of the latter were explored or came to autopsy, but I do not recall any in which operation gave decided benefit, or in which the autopsy gave reason to believe that trephining would have probably changed the result. The pathology of these cases is usually very complex, but brain contusion and laceration, with extensive fissuring of the skull usually at or extending into the base are the most serious lesions. True, more or less hemorrhage, mostly moderate in amount, diffuse, often multiple, or inaccessible in location, naturally enters as a factor. Some enthusiastic surgeons advocate exploratory trephining under such conditions. I believe such a course is rarely wise. The rule should be: Only in the presence of fairly definite evidences of a focal lesion should the intact skull be opened. It is true that the mere operation of trephining is not serious, but the attempted exploration, if it is to do much good, or to satisfy the operator that he has at all accomplished his purpose in clearing up all doubts as to the intracranial conditions, must be much more extensive, and such as would certainly be decidedly objectionable in cases which ultimately recover without such exploration. In the more fatal cases such explorations rarely accomplish much. Sometimes there is a brief relief of pressure symptoms, i. e., some improvement of the intellect for a few hours.

All truly exploratory operations are open to grave abuses, and ought only rarely and exceptionally to be undertaken, and then after very careful deliberation. In most exploratory operations the necessity for interference is fairly clear, the procedure is exploratory only to determine which one of several possible conditions is present, and what further procedures may be necessary. Some operation is quite clearly indicated. In the brain the conditions for exploratory operation are further limited by the necessity for fairly exact localization. Hence, in this class of cases, an exploratory operation is confronted by a double difficulty; first, it is not clear that serious hemorrhage exists; second, and yet worse, there are no indications as to where it may be reached if present. Hence I believe the rule should be: Trephine for hemorrhage only when the history or signs carefully observed and interpreted indicate localized pressure. Like all rules this may be open to possible exceptions, but they should certainly be few and under exceptional circumstances. To lightly explore these cases on the general theory that it can do little or no harm, and might occasionally prove fortunate, is not rational.

COMMON PAINFUL FEET*

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MINNEAPOLIS

The conditions which I have made the subject of my paper are unfortunately only too common in the practice of every physician, and have the additional claim to our attention of being very commonly misdiagnosed. There are a number of conditions which might be included under the category of common painful feet, but I will discuss only the two which I think come more commonly under the care of the general practitioner, which are flat-foot and the so-called Morton's disease or metatarsalgia. Both are common and both are commonly treated under diagnoses varying widely from the true ones, and naturally with extremely poor results.

Flat-foot, weak or abducted foot, varies in degree from extreme deformity, recognizable at a glance, to cases with no deformity but with characteristic pain. In a well established flat-foot there are certain anatomical points which are characteristic: 1. The foot is displaced outward so that the weight of the body rests on the inner side of the foot, causing more or less depression of the arch of the foot. 2. The foot is pronated and rotated outward so that a line drawn along the crest of the tibia strikes inside of the great toe instead of striking the second toe as it should normally. 3. As a result of the pronation the astragalus is rotated and displaced inward and downward so that its head can be plainly felt on the internal border of the foot, and with it the scaphoid is displaced to a less degree. To quote Whitman: "The typical flat-foot is, as it were, broken in the center, the posterior division being turned inward and downward; that is, the astragalus has rotated inward and downward to an extreme degree, and has slipped from off the os calcis. The latter bone, although forced outward in its relation to the astragalus, still turns slightly inward, while the forefoot in its relation to the leg is greatly abducted. The dislocation may be so extreme that the entire sole of the foot rests upon the ground, and a callus even may be found at the point that usually represents the highest point of the arch, which now supports the greatest burden." The disability which accompanies the above anatomical conditions varies with their degree of severity.

Abduction of the foot is impossible, and plantar flexion is restricted as is dorsi-flexion, though the latter may appear free on account of the malposition of the foot.

With these disabilities is associated pain, due to strain upon and giving way of the ligaments, which often begins before any visible deformity. This pain is felt along the inner side of the foot, running up into the calf and sometimes into the thigh. Sometimes the pain may be in the heel and sometimes just below the external malleolus. The foot becomes weak and cold with deficient circulation, and is injured by any little misstep. The pain is regularly felt only during exercise, at least during the early stages of the disease. After a time a condition of spasm and rigidity supervenes, and any passive motion is painful and at times impossible. In this stage locomotion is only possible at the expense of great pain, and some sufferers are entirely disabled.

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*Read before the Minnesota Valley Medical Society, December 2, 1902.

Owing to the absence of pain except while walking or standing, in most early cases, especially in those without marked deformity, it is easy to see why the diagnosis of rheumatism is commonly advanced. It is probable that the large percentage of flat-foot cases are treated as rheumatism at some time in their history, and as correct early treatment is most desirable it is important that there should not be this error in diagnosis. Careful examination will enable a positive diagnosis to be made in most cases, even when seen very early. The attitude in standing and walking, and the distribution of the weight of the body are to be observed. The shoes are to be observed as showing faulty weight distribution, and the prolongation of the tibial line is to be noted as showing any abduction present. The contour of the foot and the depression of the arch under weight are both to be observed. If the concavity, which normally exists on the inner side of the foot, has changed to a convexity, the foot is weak and the same is true the weight abnormally depresses the arch. The most important sign for diagnosis is not, however, the shape of the foot which varies as to height of arch greatly in different individuals, but the position of the foot in abduction and pronation, and the impossibility of voluntary adduction with added, in some cases, spasm and impossibility of any passive motion. The gait alone will often make the diagnosis in bad cases, and is an important aid in all. The patient walks stiffly with everted feet, with no spring, and in fact in bad cases would walk no worse if springless wooden feet were substituted for their disabled members. The cases which have extreme depression of the arch without abduction, have little pain or spasm, weak feet and while they are not necessarily painful feet. Pain seems to depend more upon the existing inflammatory changes than upon the degree of deformity.

Treatment.—All early cases can be helped by properly fitted shoes with wide soles and low heels, points contributing to the stability of the patient. Such shoes, raised along the inner side by a solid sole continuous with the heel and filling up the shank, will relieve many cases in their early stages. The lift should be one-fourth to three-eighths inches in thickness, and should be placed under the sole so as to leave a smooth wearing surface.

The patient should be instructed not to turn out the toes in walking, but to walk with the feet parallel and to spring from the toes as he walks.

Exercises in rising on the tip toes, and in voluntarily adducting and supinating the feet, are useful in these early cases. In more advanced cases the above means may be insufficient, and a support worn inside of the shoe may be needed; and if properly designed and fitted this will give the greatest relief, but it is to be noted that the ready-made supports advertised by instrument makers are worthless.

Quite wide variation exists in the supports used by prominent orthopedists in different parts of the country, and the so-called plates are made of widely varying materials, but there are two general divisions under which they all may be classed: First, plates which attempt to prevent the deformity by leverage as distinguished from direct support, of which class the foot plates of Royal Whitman are the best illustration, and seem very successful in his skillful hands; second, plates which directly support the arch. The latter are made in various forms, and have their earnest advocates who claim that they relieve patients who can not wear plates of the Whitman type. To be of any value both sorts of plates must be fitted upon a plaster cast of the corrected foot, and carefully adjusted.

All rigid feet must be corrected under anesthesia by forcible manipulation, and then put up for several weeks in plaster of Paris in an over-corrected position. After this they are to be fitted with plates and forcibly over-corrected at least once weekly. Massage and gymnastics must be insisted upon in all varieties of flat-foot. By these means of treatment most sufferers can be made fairly comfortable, and without them this is impossible; and when you once note the amount of relief the simple elevation of the inner side of the shoe can give in suitable cases, you will wonder at the neglected cases who need only such simple means to relieve them. Some months ago I saw a woman in a Dakota town who had been on crutches for over a year, and had been treated by four different men under diagnosis varying from rheumatism to tuberculosis of the ankle-joint, who was relieved in a few weeks by forcible correction of the deformity and a tilted shoe. There are scores of these cases in every community who are suffering for correct diagnosis and proper treatment.

The other painful foot which I mention is anterior metatarsalgia, called Morton's disease from the surgeon who first called attention to the malady. This trouble is characterized by what the sufferers call a cramp in the leg causing them to be obliged to take off their shoes at once. This pain starts at the fourth metatarso-phalangeal joint, and radiates up the leg, in some cases reaching to the hip. Women are the greatest sufferers, especially those of neurotic temperament. Bad shoes which cause transverse pressure at the metatarso-phalangeal joint are the common cause of the trouble, which seems to be a pressure neuritis of the nerve which passes between the head of the fourth and fifth metatarsal bones, due to pressure which occurs at this joint especially, from the mobility of the fifth metatarsal bone, which by lateral pressure is easily forced either below or above its normal level.

In many cases a breaking down and constant depression of the anterior transverse arch of the foot is the cause of the faulty relation between the fourth and fifth metatarsals and of the resulting pressure on the nerve, so that there are two distinct elements to be considered in each case, the presence of lateral compression from a bad shoe, and a weak transverse arch independent of the shoe.

The diagnosis of these cases is easy when once one's attention is called to the condition and in many cases prompt relief can be given. Study of the shoe worn, with manual compression across the head of the metatarsals sliding the head of the fifth metatarsal first below and then above its normal plane, will soon reproduce the typical pain and often the cramp complained of in those cases due to direct pressure.

Study of the sole-marking, either by observation through a glass plate upon which the patient stands, or by means of a plaster model, will determine whether there is depression or want of resiliency of the transverse arch. The treatment will vary according to which of these conditions is found present.

In simple pressure cases complete relief can often be obtained by having a shoe made with a broad sole designed from a tracing of the weight-bearing foot, with an upper which fits snugly from the instep upward, thus preventing all sliding of the foot downward or outward, which unaided can cause the characteristic symptoms in these cases even in a loose shoe. In cases with weak transverse arch the same type of shoe is advisable, but in addition, the arch must be supported, and for this the simplest device, and one which is often efficient, is a piece of leather or felt about three-quarters by one inch and one-quarter inch thick in the center rounded in all directions to thin edge, which is to be fastened to the sole of the shoe so as to support the second and third metatarsals, just back of their heads. It is usually better to experiment as to the exact size and exact location of this pad in each case before rigidly fastening it to the shoe; and sometimes patients are at first very intolerant of this device, but care and perseverance will result in helping a large number in this way.

There remain a few bad cases which must have recourse to footplates of steel, much like the Whitman flat-foot plate, but extending forward to support the transverse arch. These must be made from a plaster cast of the foot corrected to give the required elevation, and are only advisable when there is a general weak condition of the foot requiring support. Morton in his original article recommended an operation for these cases, consisting of a resection of the head of the fourth metatarsal allowing the toe to drop back, thus relieving the pressure upon the diseased nerve; but this operation has largely passed out of use, being found unnecessary in the very great majority of cases, as proper shoes and supports have been uniformly successful. In obstinate cases it may be done, and gives sure relief in all pressure cases without much damage to the foot. The operation is easy, the fourth metatarsal being exposed by an incision lateral to the tendons, the head of the bone removed with bone-forceps, and the untouched phalanx allowed to drop back. A new joint forms, and there is little loss of function, although quite marked deformity.

Another operative procedure which is sometimes useful is neurectomy of the inflamed nerve. This can best be done in the leg where the nerve is subcutaneous, and simple division is better than an excision of part of the nerve, as all that is aimed at is a temporary relief of pain, while other methods are being used to relieve the actual morbid condition. In some old cases where the nerve has become chronically inflamed I think this procedure of value, merely as a paliative, but in only these rarer cases should it be considered.

There are divers troubles of the feet that might come under the heading of this paper, such as hammer-toe, contracted feet, hallux valgus, hallux rigidus, and others, but the two conditions discussed are the more common and also, I believe, more apt to be misdiagnosed and mistreated than the others mentioned; and this must be my excuse for bringing before your Society a subject which can embrace little original or novel, and which is doubtless an old story to many present.

INSANITIES FROM AUTOGENIC POISONING*

By W. A. Jones, M. D.

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MINNEAPOLIS

Every practitioner of medicine, whether he be internalist, surgeon, psychiatrist or neurologist, comes into contact with patients who have overstepped the border-line of sanity and become confused, delirious, excited or stupid from apparently trifling causes; and a tempting hypothesis for explanations is, that they are suffering from autogenic poisoning. Many of these cases give a negative family history, unless the investigation be searching. It must be presumed that in the majority of transient mental maladies there is an inherited instability of central nervous organs upon which disease-stimuli or external conditions operate. In those who are endowed primarily with a fairly stable nervous organization the defect in non-nervous organs may manifest itself during physiological development, and thus an acquired instability may form the basis for general physiological unrest. The line of demarcation may then be difficult to outline between cause and effect, and in our effort to combat mental disturbance we may overlook inherent or acquired instability in the individual.

When a careful study of the history and mental characteristics of the patient has been completed, the attention of the investigator should be directed to the organs of transformation and arrest of normal or abnormal products, viz., the liver, the mucous membrane of the gastro-intestinal tract, spleen, lymph-nodes, adrenal and thyroid glands. Next in turn come the organs of elimination—the kidneys, lungs, skin and intestines. It is a well established fact that the onset of mental confusion usually indicates a toxemia from some source; hence the necessity of careful chemical and bacteriological analysis of secretions and excretions.

An excessive production of normal physiological products may be as responsible for confusion or stupor as the retention of abnormal or pathological, but diminished, secretions. The accumulation of a deleterious substance must have the proper culture-medium before it is destructively operative, whether it be a poisonous or non-poisonous ptomain, toxin or toxalbumin. Vigorous constitutions do not always escape the overwhelming of the blood-stream by transient intoxicants, as is shown by the effect of alcohol, surgical interference of the thyroid or prostatic gland, or the ingestion of certain food substances preceding a mental outbreak, convulsion or transient paralysis. The various micro-organisms that become arrested in the intestinal tract and undergo putrefactive changes or retard the normal metabolism, may be determined by the presence of leucomains, the interference with the formation of urea, and the probable resultant renal insufficiency, the presence in the urine of the sulpho-acid or potassium salts, and thus the hypothesis is established, and yet it can only be regarded as a conception founded on analogies.

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*Read before the Hennepin County Medical Society, December 2, 1902.

In private practice one sees occasional cases of insanity due to autogenic poisons, while in the hospitals for the insane the records doubtless are filled daily with such observations among the acute and chronic cases. Unquestionably, many patients are hurriedly committed to public institutions who might recover at home or in a general hospital, if the physician was in a position to make a painstaking and scientific investigation of each case. The milder mental disturbances in which there is irritability, restlessness, headache, depression, insomnia or somnolence, are of such frequent occurrence and so readily disappear that they attract but little attention; perhaps they are frequently aborted by the old family physician, who, as a matter of routine practice, gives heroic doses of calomel or castor oil to open the avenues of exit for the excretions, and thus saves the patient from an attack of furor or confusion.

The recognition of a chronic nephritis or a renal insufficiency is not a simple problem. The gravity of the complex and ill-defined group of symptoms is appreciated only after repeated examinations and analyses. When associated with other clinical symptoms indicating an invasion of the nervous system, as an occasional convulsion and a departure from the normal mental standard of the individual, does the picture assume clear outlines.

The variability of the mental symptoms with a uremic foundation is comparatively unimportant, except from a prognostic standpoint. The form of the insanity depends upon the individual, his habits or vices, rather than on his nephritis. When the psychosis is established, and the patient brought in, without family or personal history, to a strange physician, continued observation may establish the diagnosis, but the prognosis in many instances is purely speculative, for the reason that the disease varies in its expression, the renal symptoms may subside or be masked for a time by other disease conditions, or the irritability of the nervous system may conceal the disturbance of his visceral organs during the period of excitement.

In a certain type of intoxication insanities, a reasonably clear history may be obtained. The patient has an inherited tendency or susceptibility to disease. He is peculiar in his habits, reserved in his manner, drinks moderately or is grossly intemperate. The first evidences of his approaching insanity are ushered in by the usual symptoms: confusion, hallucinations, sleeplessness and restlessness, or confusion with hallucinations of depression. He is fearful and suspicious with occasional, but brief, periods of excitement. He was not under medical care or observation until he was brought into the hospital. Examinations fail to reveal any gross or organic disease; he has no symptoms of auto-infection. Later the mental symptoms are intensified, and the acute exacerbation of an old nephritis shows conspicuously in the urine. The patient, who seemed to be rapidly degenerating, passes through the storms of an infection and recovers; his nephritis subsides, his alimentary tract resumes its normal function, and his mental cloud clears away, leaving behind an almost imperceptible mental reduction, not enough to prevent the resumption of his affairs. These patients pass through a familiar cycle; i. e., their powers of resistance overcome their tendencies, the acute disease stimulus, and the external conditions.

To illustrate these familiar forms of insanity let me briefly outline a few cases.

Case I.—C. U., aged 36, male, druggist, family history negative, acquired instability, well until two years ago. He has been a moderate beer drinker. In April, 1901, he had a convulsion, and in the following ten months had ten epileptiform seizures. He came to Minneapolis January 22, 1902, and was sent to the Northwestern Hospital for observation. He is clear mentally, memory good, but is restless, resistive and distrustful. On the evening of the second day he became suddenly maniacal and hallucinatory. There was a rapid rise in temperature to 105°, with corresponding pulse elevation to 150. With the onset of the excitement the urine showed casts, and albumin, and the skin was dry and harsh.

He improved rapidly, the acute symptoms subsided in ten days, and in one month he was discharged recovered. He has had no return of convulsions or confusion in the past three months.

Diagnosis.—Presumably an acute hallucinatory, confusional insanity from an old nephritis with an acute exacerbation.

Case 2.—J. C., male, aged 40, neuropathic family history, habits irregular as to life and drink, peculiar in his deportment—quiet, reserved and unsocial. Early in February, 1902, the patient became suddenly confused, was restless, had hallucinations and fears. He gradually grew worse, refused food, answered no questions, and on one occasion fled through the window. Repeated examinations of urine failed to disclose a nephritis until six weeks after his admission, when he became uremic, frequent emesis, tongue foul, urine scanty and loaded with casts and albumin. Recovery, mental and physical, was gradual.

Diagnosis—Hallucinatory, confusional insanity, from chronic nephritis.

Case 3.—Male, aged 72, retired, family history negative. For years the patient had suffered from diabetes mellitus. During the spring of 1901 he became depressed, sleepless, resistive, irritable, forgetful and confused, with occasional attacks of motor unrest. He has the common fear of losing his property, that his means are exhausted, and shows other evidences of his depression. He is placed on a generous diet, and the urine examined. Acetone is found to be present, and the quantity of sugar large. Under salol, codeine and strychnia he improved rapidly, and has been well, mentally, for nearly one year, and in better general health than for five years. The psychosis followed the glycosuria, and the diagnosis of diabetogenous insanity is reasonable.

Case 4.—Miss O., aged 27, seamstress; ancestral history doubtful. The patient had not been in good health for a few years, was suspected of tuberculosis, but disproved the diagnosis or recovered from a focal disease. After weeks of hard work she became depressed, and a week later became suddenly maniacal and confused, sleepless and constipated. For three or four days the attending physician administered sedatives and opiates in large doses without effect. Two men were required to restrain the patient in bed. Ten grains of calomel were administered on the tongue, and the patient placed in a hot bath, followed by a hot pack. As soon as the calomel operated, the confusion and excitement cleared up, and the following day she recovered.

Diagnosis.—A case of intestinal toxemia that needed the sedative effect of water and mercury.

Case 5.—S. C., farmer, aged 42; fair family record. Ten years ago he had an attack of confusional insanity, from which he recovered in three months. The present attack began in December, 1901, with mild confusion and sleeplessness. In February there were periods of excitement of short duration, intense confusion with purposeless acts of violence and destructiveness. He was sent from North Dakota to Minneapolis in February and was placed in bed. He was evidently loaded with toxins. The parotids were infected, and the gastro-intestinal tract was overfull. The temperature was moderately elevated, and the pulse slow. His treatment consisted of water inside, hot bath, followed by cold showers, castor oil daily in large doses; enemas, with hypodermics of morphine and hyoscine at bedtime, for ten nights. The urine was scanty and highly colored, and contained indican in abundance, but there was no evidence of renal disease. The confusion cleared rapidly with no mental reduction, and he was sent home in four weeks, recovered, and has resumed operations on his farm.

Diagnosis.—Confusional hallucinatory insanity from intestinal toxemia.

Case 6.—Mr. C., aged 46; good family history; was a moderate drinker for years, but for three years has been an abstainer. While traveling as a commercial agent he visited a town in this state, took a few orders, then became confused and wandered aimlessly about. He realized his condition sufficiently to take a train for his home, fearing a mental disturbance similar to one that occurred seven years ago while he was drinking. On his arrival at home he was confused, stupid, oblivious to his surroundings, sleepless, and had involuntarily movements, laughed and whispered to himself, and was occasionally unmanageable, picking and rolling his bedding about. When seen by the writer he was in the condition described above. He was treated by calomel and castor oil on the supposition that his disturbance was autogenic. The attending physician gave him a hypodermic of morphine, and put him in a hot pack at bedtime. Two days later he suddenly recovered, after a period of noisy excitement, remembered his first half day and the orders he had taken and neglected to turn in.

The attack lasted ten days, and he has remained well since. Only a superficial analysis of the urine was made, and that disclosed nothing.

Diagnosis.—Acute confusional insanity.

These cases are presumably a repetition of the experience of every man in this Society, and are an appeal to the general practitioner, who is in a position to know the history of the patient, to be on guard that he may recognize these cases early, to treat them from a common-sense standpoint and perhaps prevent them from becoming so saturated with their own poisons that they become chronic in their mental cloudiness.

PERITONEAL ADHESIONS OBSERVED IN AUTOPSIC ABDOMINAL INSPECTION

By Byron Robinson, B. S., M. D.

CHICAGO

If one makes several hundred autopsic abdominal inspections he will become indelibly impressed with the fact that peritoneal adhesions recur in definitely selected localities. Of course if the inspections be made on female bodies the adhesions will be noted extensively at the proximal ends of the oviducts (at least in 75 per cent of subjects), but in both male and female definite peritoneal adhesions recur on the ventral surface of the psoas muscles, i. e., on the right side adjacent to the ileo-appendiculo-cecal apparatus (75 per cent) and on the left side in the mesosigmoid (80 per cent); also about the flexura coli hepatica and flexura coli lienalis. In other words there are different kinds of peritoneal areas in the abdominal cavity manifest by the presence of peritoneal adhesions or absorp-

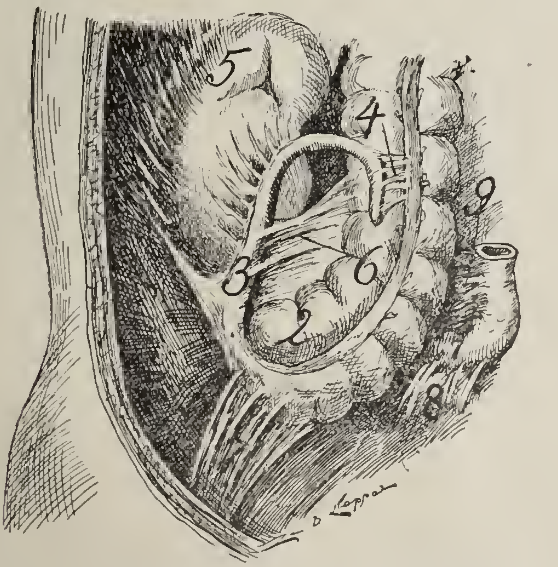

Fig. I.—The distal ileum, cecum, and appendix compromised by peritoneal adhesions. 1. Distal ileum. 2. Cecum. 3, 4, and 6. Appendix fixed. 5. Kidneys. 7 Adhesions fixing cecum.

There peritoneal adhesions are induced by the trauma of the ileopsoas muscle.

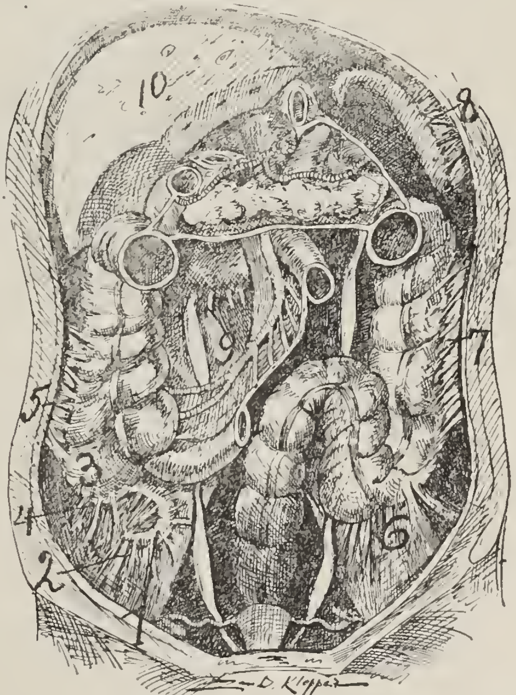

Fig. II.—Recurrent adhesions in definite peritoneal localities. 2 and 4. Adhesions adjacent to appendix and cecum. 5. Adjacent to right colon. 6. Adjacent to mesosigmoid. 7. Adjacent to left colon. 8. Adjacent to spleen. 9. Adjacent to duodenum.

There adhesions are due to muscular trauma inducing germs or their products to migrate through the tunica mucosa, tunica muscularis, and tunica serosa, causing peritoneal exudates.

tion. 1. There is the colonic area, which is an area of peritonitis, or an exudative—not an absorptive area. This area includes the regions of the cecum, appendix, distal ileum, right transverse and left colon, hepar (gall-bladder), spleen, and sigmoid flexure. It includes the pelvic area, but the oviducts are the chief inducers of peritoneal exudates in the pelvic peritoneum. The colonic area of peritonitis is the area of successful surgery, as is noted in operations on the tractus genitalis and on the appendix and gall-bladder. 2. There are the enteronic and diaphragmatic areas,—the areas of absorption, not of peritoneal exudates. These are the areas of dangerous surgery,—absorption, sepsis, kills; peritonitis or exudate saves life. Peritonitis is a life-saving process, and if subjects with acute peritonitis can secure immediate anatomic rest (in bed) for bones and muscles, as well as physiologic rest for viscera (no food or drink through the stomach) most recover.

The most accurate way to acquire knowledge in regard to peritonitis is at the autopsy.

Fig. 1 shows the appendix and cecum compromised by peritoneal adhesions. The contracting adhesions compromise structure, function and object of viscera, they compromise the lymph and blood-vessels, traumatize nerves, and check drainage. Muscular trauma of the psoas is the chief instigator. Fig. 2 notes peritoneal adhesions adjacent to the appendix (2), and cecum (3), and mesosigmoid (6) from muscular trauma (7) along the left colon.

Peritoneal adhesions arise from local peritonitis due to an inflammatory process desquamating the endothelia with a consequent peritoneal exudate. Peritoneal adhesions are organized peritoneal exudates covered with new endothelia, which in general appear smaller than the organized desquamated endothelia.

The predominating factors inducing peritoneal adhesions are (1) trauma muscularis, (2) trauma chirurgica, (3) trauma mucosa, (4) trauma perforativa. Muscular trauma produces the majority of peritoneal adhesions. Any segment of the tractus intestinalis which lies within the range of muscular action of a long powerful muscle like the psoas, will in the vast majority of adults (85 per cent) be surrounded by peritoneal adhesions. The trauma of the muscle on the segment of the tractus intestinalis induces pathogenic germs or their products to migrate through the tunica mucosa, through the tunica muscularis, and through the tunica serosa, whence a peritoneal exudate arises and finally organized peritoneal adhesions. The infectious invasion through the walls of the tractus intestinalis may leave no macroscopic or microscopic trace. A healthy mucosa and muscularis may underlie a serosa superimposed by extensive peritoneal adhesions. Also a diseased mucosa may underlie a healthy serosa.

Peritoneal adhesions from muscular trauma in 485 recorded personal autopsic abdominal inspections occurred on the ventral surface of the psoas muscle (right) 75 per cent and (left) 85 per cent males; adjacent to spleen 90 per cent; adjacent to the vertical cola 45 per cent. Peritoneal adhesions of tractus intestinalis occurred in 90 per cent of male subjects. Females presented about 5 per cent less. The tractus genitalis of females presented 75 per cent in 135 adults autopsies. All these peritoneal adhesions are not from muscular trauma, but the vast majority are. In the tractus genitalis must be included infection forced proximalward through the oviducts; however the oviducal peristalsis (muscular) and trauma of the levator ani muscle enhance the amount of pelvic peritoneal adhesions to a large degree. The menstruating girl with a temperature is generally ill because the trauma of vigorous oviducal peristalsis and trauma of the levator ani forces infection through the oviducal pavilion into the pelvic peritoneal cavity.

Surgical trauma produces about 75 per cent of peritoneal adhesions, as is demonstrated by repeated subsequent peritoneal sections. In some 200 dogs on which laparotomy was performed for experimental purposes I found in the autopsy, occurring within ten weeks about 80 per cent of peritoneal adhesions.

As to the influences which produce disappearances or absorption of peritoneal adhesions we are quite in the dark. It appears that active visceral peristalsis and motion hasten absorption. It is doubtful whether any artificial membranes of the peritoneum of other animals will materially lessen adhesions in surgical intervention. Besides, peritoneal adhesions present an individual variation. I have noted cases where peritoneal adhesions existed at the operation and continued for eight years when a second peritoneal section was required for strangulation of segments of the tractus intestinalis. Peritoneal adhesions are significant when it is realized that they cause one-third of all obstruction of the tractus intestinalis. The peritoneal adhesions are like a double-edged sword, which cuts in two directions. The usefulness of peritoneal adhesions is that they form barriers which check the invasion of infection; they imprison, sterilize, and starve bacteria; they block the lymphatics leading from infectious centers, rendering relapsing attacks of peritonitis, (e. g., appendicitis) increasingly less dangerous or infectious. The evil effect of peritoneal adhesions is, they compromise visceral function, structure, and object, ending in malnutrition, pain, neurosis, and invalidism.

They compromise the common functions—absorption, secretion, and peristalsis—of the tractus intestinalis, urinarius, genitalis, vascularis, and lymphaticus, inducing excessive, deficient or disproportionate absorption, secretion, and peristalsis. They traumatize the tractus nervosus. Adhesions compromise canalization of viscera, check drainage, give rise to chronic catarrh, and are rich in nerve waste through reflexes. The most appalling disaster induced by peritoneal adhesions is by compromising the function and structure of the weakest segment of the tractus intestinalis the appendix, inducing appendicular perforation whence appendicitis occurs, the most treacherous and dangerous abdominal disease.

THE SIGNS OF DEATH

The signs on which a medical man should rely as furnishing the best evidence of the reality of death, prior to the commencement of putrefactive changes, are: 1. The absence of circulation and respiration; 2. The gradual cooling of the body, the extremities cooling first, and the trunk last; 3. Gradual supervention of rigor mortis; 4. The production of post-mortem stains or ecchymoses. The careful observation of these four signs by a medical man will enable him to distinguish a living from a dead body.—British Medical Journal.

A MEDICAL CONFESSION

FASHIONABLE PHYSICIAN EXPLAINS METHOD OF DISPOSING OF DOLEFUL CASES

One busy up-town doctor has explained the duties of his assistant: "The young fellow holds a unique position," he said. "I don't believe that there is another man in this city whose duties are exactly the same. He doesn't know enough about medicine to prescribe for a sick doll, and the title of 'doctor' is applied to him simply as a matter of dignity and convenience.

"His is something of a priestly office. He is required to listen to the confessions and general woes of my women patients and distribute advice and consolation. I used to attend to that part of the business myself, but as my practice grew I found that it was simply impossible to care for those who really needed my services from a physical point of view and also give ear to the mental and spiritual complaints of my visitors. Resolved into a few words, my position was that of a man who either had to stultify his talents and curtail his actual usefulness, or cut himself loose from a large number of profitable patients whose treatment consisted in listening to their tales of woe.

"In my extremity I bethought me of an assistant capable of shifting on to his own shoulders the confessional burden. I secured the man who I thought would suit, and soon put his talents to the test.

" 'My dear Mrs. Smith,' I said to one of my regular time filchers. 'I have thought over your domestic troubles until I am actually growing gray-headed, but I must confess that I have been unable to hit upon any solution of the problem. Pray, let me introduce you to my assistant, Dr. Willard. He is trustworthy and a thorough man of the world and will no doubt be able to suggest a course of action that would not occur to me this side of eternity.'

" 'Will—will it be quite—quite proper to tell him everything?' she whispered.

" 'Everything,' I said, and according to all accounts, she took me at my word and omitted nothing.

"Naturally it took time to switch them all on to this sidetrack, but I now have them well trained, and, with Dr. Willard's assistance, I am able to do three times the work that I could accomplish unaided."—New York Times.

NORTHWESTERN LANCET

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SANATORIUM FOR CONSUMPTIVES

The commission appointed by Governor Van Sant to investigate and report upon the advisability of a sanatorium for consumptives has recommended that $150,000 be appropriated for a site and building. A spot near Walker, Cass County, has been selected as most desirable. The governor has endorsed the report in his message, and urges the legislature to set aside this sum, if the demands upon the treasury will permit. As a matter of protection to others, the relief of the suffering and misery of the afflicted, and the possibility of stamping out a formidable disease, the amount asked for should be granted. As a business proposition the investment would return a large dividend in the restoration to comparative health of those who are now a financial burden to their friends, and to the general and city hospitals. If the legislator needs an object lesson, invite him to visit the wards where the tuberculous patient lies deprived of his principal therapeutic agent,—fresh air free from a multiform congregation of germs.

Unless one is familiar with the helplessness of the tubercular subject it is almost impossible to understand his needs. The records of other sanatoria are so gratifying that Minnesota should promptly place herself in line with the states that have generously forseen the benefits of separation, segregation, and fresh air.

Cass County has long been the Mecca of medical men to which consumptives have been directed. A delay of two years would mean the death of many who need and deserve the benefits of a sanatorium.

Here is an opportunity for the medical man to advise his representative without a shock to the dignity of either party. If this bill is successful in its passage it will be due to the personnel of the commission and the influence of the members of the various county societies scattered over the state.

WAKE UP!

The return of the legislators to the State Capitol should arouse the interest of every physician throughout the state. Physicians who are in sympathy with the organization of the American Medical Association will demonstrate the power of an organized body of men by keeping in touch with legislation in general and medical legislation in particular.

It is imperative for the medical men of this state to take an active part in the formation of laws which are for the benefit of the public health, and to this end each must be in communication with the senator or representative from his district.

It is a notorious fact that few country practitioners pay any heed to adverse legislation. They are inclined to allow the other man to do the work that more properly belongs to them, excusing themselves on the ground of too much business, too little familiarity with legislative methods, or they hide behind the worn-out saw, "beneath the dignity of a professional man."

There is too much at stake this winter for any such excuses. Every man must do his share, and do it first.

There are eight medical men in the senate and house, one of whom occupies the speaker's chair, hence we as medical men will have a nucleus to work with. The medical men who were elected are willing to aid in every way any coherent plan or bill that will accomplish some good, but they cannot assist or advise in such legislation unless they are heartily supported by the outside physicians. The best way to help in matters of this kind is to talk with the representative plainly, freely, and in the spirit of professional dignity. Abuse or denunciation will weigh less, explanation and advice will weigh more, than superfluous talk.

The rights of the profession should be maintained, and the rights of others respected. If adverse legislation presents itself, it must be met firmly by demanding that all must be amenable to one medical law, and that all who are engaged in the practice of medicine must be admitted on an equal footing, no relaxation, no special or class legislation.

The legislative committee of the State Medical Society are prepared for the work of this session, and they must be supported by an organized body of medical men throughout the state. If the physicians in the smaller towns would awaken to the fact that their advice to the representative would be acceptable and valuable, there would be no possibility of the introduction and passage of bills aimed to defeat or deform the efforts of those who are most interested in the continuance of public health.

VERDICT FOR A PHYSICIAN

Dr. Geo. D. Head, of Minneapolis, has accomplished a bit of heroism that will be of great benefit to his professional brother. He had the temerity to sue a corporation which was insured against accidents to its employees. His first suit was successful in the municipal court. The company carried the case to the supreme court, and met defeat.

The facts in the case are as follows:

The American Bridge Company was building a steel elevator, and in the course of construction eight employees were injured. The men were sent to Dr. Head by a bookkeeper, who also had charge of the casualties.

The doctor sent in his bill, a very modest one, sixty-three dollars, and was directed to send it to the attorney for the Travelers' Insurance Company, who claimed that his company was liable for *first aid only*. The bill was divided. The insurance company paid thirty-three dollars, and informed the doctor he must collect the balance from the Bridge Company or the men who were injured. The Bridge Company claimed their agent had no authority to hire more than first aid only, but the testimony showed that Dr. Head did not know the agent was restricted in his authority until long after said service was performed.

The supreme court decided the case, established the following rule as far as this state is concerned:

If a physician is summoned to attend an injured person, by another having authority from his principal to hire the first aid services only, and nothing is said about his authority being limited, and the physician is unaware of such limits, the agent binds the principal to pay, not only for the first aid, or initial service, but for the subsequent service as well.

This rule is a valuable one for doctors who are engaged by insurance companies that protect corporations from casualties. If the doctor is informed at the time that he will be paid for first aid only, he will make some definite arrangements for the payment of subsequent services.

In all probability there will be hereafter an adjustment of claims by corporations and insurance companies, and corporations will not pay large premiums to protect themselves without looking after the welfare of their employees after the initial injury.

Although the suit may not make it possible to collect large or even reasonable fees for surgeons, it will do something toward the elevation of service and a more rational compensation.

Heretofore casualty companies have belittled the services of the physician. The successful issue of this suit should stimulate men to charge more for their services and collect them—if necessary, by law.

MEDICAL FEES

In 1837 the eminent Kentucky surgeon, Benjamin Winston Dudley, operated successfully, but gratuitously, on a poor boy for stone in the bladder. This and the following circumstance were lately brought to light again by Dr. Osler and the St. Louis Medical Review. The lad was deeply impressed by the generosity of the great surgeon, and made a resolve that if ever he became rich the fee should be paid. About two years ago one of the heirs of Dr. Dudley had a letter from W. G. Saunders of Iowa, stating that he was anxious to make arrangements to pay a long-standing indebtedness, and asked if a fee of $500 would be suitable for the operation of lithotomy performed on him by Dr. Dudley in 1837. Last year the executors of Mr. Saunders wrote that in a codicil of his will directions were given to pay the fee with interest, and they had much pleasure in handing over the sum of $2,390.

BOOK NOTICES

Typhoid Fever.—By J. T. Moore, M. D., M. C. P. S., Professor of Theory and Practice of Medicine, Medical Department of Hamline University, Minneapolis, Minn. Pages 159. Price $1.00 net. Chicago: G. P. Engelhard & Co.

As a usual thing, condensed articles are void of flavor and, to be fully appreciated, require diluting and seasoning.

While, in one sense, this volume is a condensation of available material on typhoid, still the subject matter is carried out in detail, but not to such a point as to become tiresome. The facts are fully but tersely stated, and clothed in language that is very pleasing, and while the personality of the writer is forcibly impressed upon the reader, it is not offensive but attractive on the whole. Although we might take issue with him on some points, they are not wholly essential, and anyone who will follow the lines laid down, will not go astray.

The work is a very pleasing monogram, fully up to date, dressed in good taste, and is very readable.

C. A. McCollom.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; Laureate of the Royal Academy of Medicine in Belgium, of the Medical Society of London; One Time Clinical Professor of the Diseases of Children in the University of Pennsylvania; Member of the Association of American Physicians, etc. Assisted by H. R. M. Landis, M. D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Volume III, September, 1902. Diseases of the Thorax and its Viscera, including the Heart, Lungs, and Blood-Vessels—Dermatology and Syphilis—Diseases of the Nervous System, Obstetrics. Lea Brothers & Co., Philadelphia and New York, 1902.

The subject of pneumonia, which occupies an important place in the first section of this volume, is a timely one on account of the season. Various new methods of treatment are discussed but there is little hope held out that any real discovery of value has been made either in serum-therapy or the use of new drugs. The conclusion reached seems to be that symptomatic treatment is still the best that can be offered.

In dermatology a number of rare and curious cases are described and in most cases pictured. The dermatologist is of all specialists most fond of trotting out rare cases which not one in a thousand of his readers will ever meet with in practice. Still the subjects treated of are by no means all unpractical, and if any one of the proposed measures for treating pruritus will really accomplisn the conquest of that stubborn affection, this piece of knowledge alone would make the work invaluable.

A Text-book of Physiological Chemistry.—For Students of Medicine and Physicians. By Charles E. Simon, M. D., of Baltimore, author of "Simon's Clinical Diagnosis," etc. In one octavo volume of 452 pages. Cloth, $3.25, net. Philadelphia and New York: Lea Brothers & Co.

Dr. Simon is one of the few whose names will establish the currency of a book. He has not written much, but has written so rarely well that he is a well-recognized authority in clinical diagnosis. His work on "Physiological Chemistry," recently issued, is a good mate to his earlier publication. As an American text-book upon this subject it is especially welcome. A guide to the modern working methods of American laboratories of physiologic chemistry is needed, and Dr. Simon has well fulfilled the need.

The book is systematically compiled. For the most part, it adopts the natural constructional order in dealing with its various topics. It begins with the raw materials of animal metabolism, the foodstuffs, following their discussion with a study of the digestive processes they undergo, and concluding with the chemistry of the several tissues and body-fluids. At one point it departs from this logical arrangement and is open to serious criticism in the departure. It does not distinctively deal with the waste products of metabolism, and while discussing them in their relation to the urine at sufficient length, it does not put them where they belong in the final chapters of the book, and at the close of his study of the tissues and nutritive media. If we are to find and fit into place the missing links in the chain of constructive and destructive metabolism, it can only be done when we keep each link which we have found in its proper relation to the rest. The links are in process of discovery, but to make the discovery serviceable they must fall into line rather than come to us en masse.

Nevertheless, the work is so surpassingly good that we can well overlook this apparent break in its natural continuity, and commend to the student this latest and best aid to his laboratory service.

R. O. Beard.

Essentials of Refraction and of Diseases of the Eye, With a consideration of ocular injuries and the ocular symptoms of general diseases. By Edward Jackson, A. M., M. D., Emeritus Professor of Diseases ot the Eye in the Philadelphia Polyclinic; etc. Third edition, revised and enlarged. 82 illustrations. Saunder's Question-Compends. No. 14. Philadelphia and London: W. B. Saunders & Co.

We presume the intent of Quiz Compends is to enable the student to learn a subject with less labor and in a superficial manner that he may be enabled to pass examinations. Subjects thus learned are not learned at all, but simply memorized that the student, parrot-like, can reply to specified questions. They are especially unadapted to medical students who should be taught to diagnose and treat diseases, and not simply how to answer questions. We believe, however, that there is a demand for books which are written purely for the beginner, but in such works the matter should be presented in a way which would enable the student to grasp it as he reads. The first question and answer in the book is a sample of those that follow, and while the definition is technically and scientifically correct, and would be perfectly intelligible to one who had made a special study of the eye, it is certainly far from making the subject plain and easy to the beginner.

"What is the optical function of the eyeball?"

"To support the sensitive retina in such a position that it shall receive impressions made by the light focussed or assorted by the dioptric media, while other light is excluded from it."

The author is one of those possessed of so much knowledge that he does not comprehend the fact that others are unable to follow, and we believe he has aimed over the heads of those this work was intended to reach.

We do not think the student would acquire a practical knowledge of the diseases of the eye by studying this book, and we believe the author, who is one of the most scientific ophthalmologists of America, has not done himself justice in this work.

The book is well printed and bound, and contains a few good illustrations.

Frank C. Todd.

The Diseases of the Respiratory Organs, Acute and Chronic. Arranged in two parts. By William F. Waugh, A. M., M. D., Professor of Practice and Clinical Medicine, Illinois Medical College, etc. Chicago: G. P. Engelhard & Co.

This book is scarcely more than a compend upon diseases of the respiratory organs. In his preface the writer states, as a reason for its publication, his belief that the treatment of acute affections of the respiratory organs has progressed far beyond that given in the text-books on practice. The publication, however, has little to commend it even from the standpoint of treatment alone, because it shows a manifest lack on the part of the author of a proper conception of the influence of drugs upon pathological conditions. For example, in his treatment of dry pleurisy after mentioning dry diet, cathartics, and no fluids, he says: "And enough pilocarpine to induce free sweating (two milligrams every ten minutes till full effect). With this relax the contracted capillaries by aconitine amorphous, half a milligram; restore contractility to the vessels in the hyperemic area by strychnine arsenate, half a milligram and digitalin, a milligram; and if needed subdue excessive heart action and arterial tension by veratrine, half a milligram."

How long, O Lord! how long will medical writers continue to put such stuff into books for the therapeutical guidance of the long-suffering medical student?

In very much the same strain the treatment of all the important diseases of the respiratory tract is considered.

The two final chapters, one upon "The Camp and Sanatorium Treatment of Chronic Pulmonary Troubles" and the other upon "The Management of the Predisposed," are pretentious in title, but scarcely worth reading. We have nothing good to say of this treatise, and we believe the profession would be better off without the book.

Geo. Douglas Head.

NEWS ITEMS

NORTHWESTERN NEWS

Dr. Sterling H. Olson has located in West Duluth, Minn.

Dr. Theodore B. Bratrud, of Warren, Minn., has gone East to locate.

Dr. A. J. Ames has removed from Minneapolis to Wheaton, Minn.

Dr. Augustra True, of Blue Earth City, Minn., has removed to Lismore, N. D.

Dr. W. A. Palmer, of Redwood Falls, Minn., will remove to Castle Rock, Colo.

Dr. J. B. Dunn, of St. Cloud, Minn., has been elected coroner of Stearnes County.

Dr. W. E. Moore, of Tyndall, S. D., was taken to Chicago last month for surgical treatment.

Dr. C. C. May, of Adrian, Minn., has been in New York City, taking a post-graduate course.

Dr. James Fair, who has been practicing at New Paynesville, has removed to Sedan, Minn.

The Park Rapids (Minn.) Hospital was destroyed by fire last month. The loss was about $5,000.

Dr. H. S. Walrath, of St. Paul, died last month. Dr. Walrath had practiced in St. Paul about twenty years.

Dr. George McGrath, of Hamilton, Montana, is in New York City doing post-graduate work and visiting the hospitals.

Dr. Karl E. Bergquist and Miss B. Torkelson, of Henning, Minn., were married last month. Dr. Bergquist is a graduate of Hamline.

Dr. O. F. Mellby, who has been practicing a few months in Willmar, has located in Warren, Minn., and will take up the practice of Dr. Bratrud who has gone East.

Dr. F. J. Bickford, a recent graduate of the State University, who is now located at Milroy, Minn., was married last month to Miss Hattie Crane, of Alma City, Minn.

Dr. J. D. Johnson, of Owatonna, Minn., was given a farewell reception by the Steele County Medical Society last month. Dr. Johnson has gone to Colorado for the winter.

The recent announcement of the death of Dr. James A. McLaughlin, of Minneapolis, was a mistake. Dr. McLaughlin was very low with typhoid fever, but has quite fully recovered.

Dr. F. A. Knights, who is secretary of the Hennepin County Medical Society and a member of the faculty of Hamline, has been elected a member of the Hamline board of trustees for three years.

Dr. W. L. Beecher, of Chicago, has located in Rochester, Minn., and will be associated with Dr. H. H. Witherstine of that city. Dr. Witherstine is a state senator, and will spend most of the winter in St. Paul.

Dr. F. E. Buchen, of Alexandria, Minn., left that city suddenly last month on account of heavy indebtedness which he felt unable to meet. He is said to have written a friend that he will pay all his debts as soon as he is able to do so. The Alexandria papers speak very highly of Dr. Buchen as a man and physician.

Dr. A. R. Brackett, of Charles City, Iowa, has been quite seriously sick with blood-poisoning, as the result of a wound in the finger. At last report it was feared he would have to lose his arm. Dr. Brackett is well known in Minneapolis, and a short time ago was present at a meeting of the Hennepin County Medical Society, and was invited to take part in the discussion of papers.

Dr. Thomas Devereux, who spent a year as interne in the Minneapolis City Hospital, after graduating at Hamline, is now located in Washington, D. C., as an assistant U. S. army surgeon. Dr. Devereux honored himself, Hamline University, and the Northwest in his examination for the position he now holds. During the competitive examinations held in Washington for positions as assistant surgeons in the army, twelve candidates were examined weekly. Out of sixty men examined only three passed, one from the University of Pennsylvania, one from a New York school, and Dr. Devereux, of Hamline, who stood at the head of the list. The leading medical schools of the country had graduates in these examinations.

The quarterly meeting of the Red River Valley District and County Medical Society will be held at Crookston, Minn., Jan. 27. The program calls for papers from the following: The president, Dr. C. E. Dampier, of Crookston; Dr. G. S. Wattam, of Warren, with discussion by Dr. H. W. Smith of Crookston, and Dr. P. O. Neraal, of McIntosh; Dr. A. McEachran, of McIntosh, with discussion by Dr. H. C. Stuhr, of Argyle, and Dr. F. H. Gambell, of Thief River Falls; Dr. J. D. Taylor, of Stephen, with discussion by Dr. M. McKinnon, of Fosston, and Dr. F. X. Farly, of Crookston; Dr. C. H. Dennison, of Crookston, with discussion by Dr. J. S. Kjelland, of Crookston, and Dr. H. Slippern, of Fosston; and by Dr. G. A. Morley, of Crookston.

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SOME CONSIDERATIONS OF COLLES FRACTURE*

By A. M. Pond, M. D.

WEBSTER CITY, IOWA

By far the commonest fracture that is brought to the attention of the average practitioner is of the lower third of the radius; and the deformity following a mistreated fracture of this region leads me to give it brief consideration here with the hope of better understanding the causes producing it and the forces necessary to properly reduce it.

Colles fracture is invariably caused by direct violence, usually a fall, and in the attempt to break the force the hand is extended palm downward, bringing the point of contact at the wrist and increasing the dynamics by the tilting action of the extended hand acting as a lever. There are certain anatomical factors entering into the production of this fracture that must of necessity be considered early in this discussion, and with your permission I will briefly consider them now, especially the ligaments of this joint.

The proximal ends of the four metacarpal bones are united to the inner three bones of the lower row of the carpal bones, namely: trapezium, trapezoid, and os magnum. These are united by palmar ligaments.

The bases of the inner four metacarpal bones are bound together by the transverse dorsal, palmar, and interosseous ligaments. Their distal ends are united by transverse fibres passing between the margins of the palmar and glenoid ligaments of the metacarpo-phalangeal joints, and at last united to form the transverse metacarpal ligament, the function of which is wholly to limit the separation of the metacarpal bones. If it were not for this ligament you can readily see how much more easily would occur a dislocation of the carpal bones instead of the fracture of the radius; but the carpal bones are small and irregularly shaped, and intimately associated by ligaments. The superficial ligaments merge into broad bands and internally become the internal lateral ligament, and on the external side form the external lateral ligament; the former finding insertion in the head of the ulna, and the external lateral ligament becoming inserted into the head of the radius.

The deeper fibres of the carpal connecting ligaments continue and by merging with one another become in turn the anterior and posterior ligaments, anterior and posterior radii-ulnar ligaments, and then form the interosseous ligament, and while on the ulna these insert themselves for quite a distance on the bone, the radial insertions are all within three fourths of an inch of the head on the external surface but extend much further up the internal than the external surface. Thus we can see how firmly fixed becomes the head of this radius.

The force producing this fracture is extreme extension. Now in extreme extension of the palm there is an angle formed, the base of which is the metacarpal bone and the os magnum. Immediately in the apex of this angle, and articulating with the end of this firmly fixed radius, is a small bone called the semilunar; hence force exerted on the metacarpal bone makes a lever of them, and makes of the semilunar bone a fulcrum, exerting great force on the lower end of the radius. We have seen above how very intimate is the ligamentous union between the carpal bones and the radius; and thus, remembering how very strong white fibrous and elastic tissue is, of which these ligaments are formed, we readily see how the radius is forced to part. Something must give away to compensate the shock of the fall and save concussion, and it is economy in nature, evidently, to sacrifice the radius.

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*President's Address, delivered before the Fort Dodge District Medical Society, Fort Dodge, Iowa.

The deformity following a fracture of the lower end of the radius is very characteristic. The displacement of the short or lower fragment cannot take place forward on account of the ligamentous insertion above the usual line of fracture, and also on account of the presence of the semilunar bone. The deformity then is what is described as the "Silver Fork Wrist," and is produced by the backward displacement of the short fragment of the radius. This causes a prominence immediately behind the wrist-joint. We cannot elicit any crepitus in these fractures by reason of the firm ligamentous attachment extending beyond the line of fracture on the palmar aspect, the elasticity of the ligaments preventing motions sufficient to secure the usual cardinal symptom of fracture, namely, crepitus. When this fracture occurs there are certain injuries to the ligament of this joint that should be understood. The internal lateral ligament is generally torn out of its insertion in the styloid process. These torn surfaces retract, so that any possibility of re-insertion would be wholly out of the question unless tendon-suture be performed, which in this region and under the circumstances we are now considering is not satisfactory. However, post mortems show that where the internal lateral ligament has been torn during a Colles fracture it is largely absorbed and that the styloid process, the original point of the lateral ligament insertion, has become entangled with the annular ligament, converting fibres of this ligament to take the place of the destroyed original lateral ligament.

The inability to support the hand, its characteristic position midway between pronation and supination, together with the prominence back of the wrist, the flexion of the fingers, the great prominence of the styloid process of the ulna, the loss of supination and pronation, severe pain, and ofttimes swelling due to the effusion into the sheath of the tendons, constitute the symptoms of a Colles fracture.

In the treatment of all fractures we aim to overcome at once the deformity by prompt reduction and then retaining the fragments in such a position that resolution may best be established.

Nearly all surgeons agree as to the technique of reduction of this fracture. I will quote from Park's "Surgery by American Authors:"

"Grasp the hand of the patient as if to shake hands with him and then make forcible, continuous, and gradual extension so as to disengage the impaction and bring the lower fragment into apposition with the upper. The surgeon should place the thumb of the left hand against the styloid process of the ulna, and push it around so as to bring it into its normal position."

This I believe is the common and accepted method of reduction, and the one employed by me until about one year ago, when I encountered a Colles fracture that could not be reduced by this method. A man about 32 years of age fell from the second story of a building, and struck the cement floor of the cellar, suffering a fracture of the right radius. At first, attempt was made to reduce it without anesthesia, but this failed, and after complete anesthesia several attempts were made in the usual way, and without result. It then occurred to me that if the fracture was caused by extreme extension, it might possibly be reduced by extreme flexion, consequently the elbow was flexed and rested securely on the table, the hand was grasped and forcible flexion made. At the same time pressure was exerted on the prominence. Reduction was easily accomplished, and can be explained thus: The metacarpal bones were used as a lever; these resting on the semilunar converted it into a fulcrum, and lifted the head of the impacted radius until reduction was possible.

I have never before seen this method described in the reduction of these fractures; but since that time I have always employed it and up to the present have had uniformly good results.

Nearly every man who has attained much of a reputation in fracture surgery has devised for a Colles fracture a splint bearing his name. All have merit, and it becomes largely a matter of personal taste in selecting the particular kind that is desired.

I have used with very gratifying results the method described by Dr. Moore of Rochester, N. Y., using a roller bandage about one-half inch in diametèr as a splint on the palmer surface of the fracture and held in place by a strap of strong adhesive plaster, the whole supported by a sling. The simplicity of this method is one of its chief attractions. In children, however, it is my practice to make a splint composed of several thicknesses of canton flannel immersed in a paste plaster of Paris, thus making a special splint for each individual fracture. These harden, and become firm enough to prevent luxation of the fragments, and also hard enough to protect the arm from injuries by blows or falls.

THE PREPARATION OF THE PATIENT FOR AN OPERATION AND THE RELATIVE VALUE OF THE BLOOD EXAMINATION*

By A. E. Benjamin, M. D.

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MINNEAPOLIS

The principles of surgery are now applied to a great many diseases that were formerly treated medically. Operations are becoming more numerous and successful. Experimental surgery has proven that all tissues of the body may be operated upon with comparative safety. The study of pathology and bacteriology has made surgical work more satisfactory and interesting. There is a tendency, however, to exaggerate the importance of the pathology of the local disease at the expense of the patient. It is necessary for surgeons to take into account the general condition of the patient before operating, in order to obtain the best results. I have especially noted the relative value of the blood examination in the general preparation of a patient for an operation in the series of cases tabulated below.

Patients are sometimes hurried to the hospital and operated upon without much preliminary care or treatment, and without the surgeon knowing the general condition of the patient, or his ability to undergo the operation. There are reasons why such a procedure may be decided upon. If an operation is postponed, the patient may refuse later to be operated upon, or the patient may seek other medical advice if the operation is delayed. Because of the scientific interest in the disease, an immediate operation is urged. These reasons should be no argument for a surgeon to do hasty work on an illy prepared patient, except in cases of emergency. Operations performed upon moribund cases, or cases that cannot be benefited, are often the means of others refusing the absolute relief obtained by an operation.

We should be so careful in our diagnosis, and so conservative in our advice, that our course will stand the criticism of other practitioners. By conservatism I do not mean that we should be slow in recommending an immediate operation when there are indications for it. The most conservative surgeon is the one who can make a temporary diagnosis and know when a case demands immediate action, when delay is advisable, and when an operation should be refused. Such emergencies as strangulated hernia, intussusception, volvulus, some cases of acute appendicitis, obstruction, perforation of the stomach from an ulcer, ruptured gall-bladder, internal hemorrhages, accidental injury, acute laryngeal stenosis, etc., may demand immediate operation. Yet in these, all the preparation possible should be made in the time allowed, before the patient is anesthetized. Most of our surgical cases, however, do not come to us in this imperative stage, and it is in such cases that I would especially recommend a careful investigation and preparation, in order that we may be able to give a more positive prognostic opinion to the patient or his friends, and that we may fortify our patient for the ordeal. We have the satisfaction then of knowing that we have done what could be done to avoid any calamity that might follow. The friends of the patient are better satisfied, and greater confidence is established. On the other hand, I do not wish to be understood to advise the consumption of any unnecessary time in making a thorough investigation and preparation for an operation; for such a procedure is detrimental to a certain class of cases.

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*Inaugural Thesis, read before the Minnesota Academy of Medicine, January 7, 1903.

There are not many patients who come to us with one complaint or symptom; nearly all have complications. It becomes a puzzling question to decide which is the cause, and which the effect. Often it is difficult to determine which lesion is to be removed, or pathologic condition to be attacked first. In some cases the correction of all should not be made at the same time, because of the additional danger in so many operations at once; and, therefore, it becomes necessary for the surgeon to study his patient just as it is essential for the lawyer to weigh the legal points in his client's case. In the language of Joseph D. Bryant, "His relations to his patients are, in most cases, three-fold: juror, judge, and executor. It is therefore very essential to the wellfare of the patient and to the dignity of the profession, that the surgeon carefully and properly estimate the value of the facts relating to a case, in order that the verdict be a just one and that its executor does not needlessly afflict the patient nor cast opprobrium on himself or the profession." Ochsner, in his recent work on "Clinical Surgery" says: "In order to be able to judge of the patient's condition, aside from the particular ailment from which he is suffering, it is necessary in each case to make a careful examination of the patient."

It should be one's habit first to make a thorough examination of all organs and parts of the body, and to take a careful history and notes on prepared blanks, as this course economizes time and is more exact. We are in a better position then to recommend an operation or not, as a means of relief; we can consider the case as a whole. It may not be possible to make a positive diagnosis in every case, nor is it necessary in all, except to know that the case is one demanding surgical interference.

Where there exists some constitutional or local disease complicating the surgical disease present, such as anemia, rheumatism, syphilis, malaria, erysipelas, tuberculosis, etc., it becomes necessary to overcome these, if possible, by proper remedies and hygienic treatment, even before the patient enters the hospital. Obese persons with flabby muscular development should have preliminary treatment, as they are poor subjects. After the patient is sent to the hospital further examination should be made, of the blood, urine, sputum, stomach contents, secretions, etc., as the case may require. The stay in the hospital for a certain time allows the physician to study his case thoroughly before operating. A careful record being kept, the condition of the alimentary and urinary tracts may be known. The variability of the pulse-rate and temperature of the patient is determined. Acute inflammatory swellings are allowed to subside, the temperature to become nearer normal, and the pulse-rate more natural. Rest of the nervous and physical forces is obtained, and confidence in the nurse and surgeon is strengthened, the patient realizing that his case is carefully studied. Patients thus become accustomed to the attendants and their surroundings, they are better able to rest after the disturbing elements of an operation, and are able to locate themselves when awaking after the operation, and therefore seem less confused. Attention to the diet and bowels should be given early, so that most toxines may be expelled. A gastric or intestinal indigestion or atony may be reduced. The mucous membrane is made freer from infectious material by the use of cathartics and enemas; and less nausea, vomiting, or disturbance is present subsequent to the operation.

Turk believes the treatment for stomach operations should begin from two weeks to a month before an operation, on account of lowered vitality and toxines present. The presence of toxines in the bowel when not eliminated before the operation, to a great degree, lessens the chances of recovery, especially when associated with shock. Any slight kidney or bladder complications may be attended to by use of certain diuretics, diet, and bladder irrigations. The heart, if overtaxed, is given rest and strength by the lessened work required of it. Any existing laryngeal, tracheal, or bronchial trouble may be watched and treated. Persons of advanced age or persons of intemperate habits may be toned up and brought into a more favorable condition. Hard working individuals, and those who are in the habit of consuming a greater quantity of food than is required, can be brought down to a more suitable quantity and quality of food, preliminary to the operation. We thereby reduce to a minimum unnecessary and superfluous elements, which, it allowed to remain, have a deleterious effect. A large ventral or scrotal hernia can better be reduced and retained after operation, if the patient remains in bed from ten to twenty days before operating. The relative importance of all complications, of whatever nature, may be judged.

In an article on operation on the stomach, published in the Chicago Medical Record, June, 1902, Turk says: "The keynote of success is the preparation of the patient's general condition before operation." In case of abscess, the pus in time becomes less virulent and the system more immune. An exudate is often absorbed, adhesions fewer in number, the operation necessarily shorter, and the parts are more easily stitched. Rest for overtaxed organs, and a building up of the system in general are secured preparatory to an ordeal which taxes most patients.

It is a well known fact that an organ that is attacked during the inflammatory stage must be handled more carefully, as the tissues give way readily, and the stitches do not hold as firmly. They cut through or out easily, accounting for post-operative hemorrhage at times, or failure to secure the tissue in the desired location. These are almost universal opinions, and should not be disregarded in choosing the time for an operation. Delay is permissible often now, when it would not have been thought possible a few years ago. We know that by keeping all parts at rest around the inflammatory area or pus focus, general infection does not ordinarily occur. Nature provides the necessary barriers, and by proper management, such as in bowel complications, a thorough emptiness above the seat of disease secures the necessary quiet. Strength is sustained by rectal feeding, and gradually the patient reaches that period where an operation is well borne. Illustrative cases of this sort are known to all of us. Where the radical treatment is adopted, as in some cases of appendicitis, the result is too often fatal. When an inflamed organ is operated upon during the acute stage we oppose the already overtaxed capacity of the phagocytes of the body to such a degree as to overwhelm these defenders, resulting in death. In these cases the value of the leukocyte count may be depended upon; we are able to judge of a systemic infection not otherwise determined.

(See the accompanying table.)

THE BLOOD

RED CELLS.—The red corpuscels are variously estimated in normal cases. Lyon gives the number as 5,000,000 per cubic millimetre in the male, and 4,500,000 in the female.

Comparatively few counts in the series of cases reported here, have been made; but the records show a decreased number in certain cases where there was hemorrhage or anemia, and in some cases of nephritis, the count was especially low. Nos. 35 and 36, which are the same case, are worthy of mention because of the diagnosis of pernicious anemia and unfavorable prognosis. This case suffered with chronic dysentery. She had an abundance of casts, and a very large amount of albumin in the urine. She was cachectic and very weak, suffered frequently with abdominal pains and systemic attacks of toxemia. Intestinal antiseptics and proper diet cured the bowel trouble, and indirectly the nephritis.

WHITE CELLS.—Leukocytes are considered normal in number when ranging from 5,000 to 7,000 per cubic millimetre. Occasionally the normal count may reach as high as 10,000 per cubic millimetre, but in most cases I have recorded here it will be observed that when the count exceeds 7,000 to 8,000 there was present some form of acute or subacute inflammatory process,—cystitis or gastric disturbances, as those in cases 1, 3, 5, 9, and 57. We note as catarrhal inflammation subsides, the white count decreases proportionately.

Rieder classifies leukocytosis into two main divisions:

1. Physiological leukocytosis
    Leukocytosis of digestion
    Leukocytosis of pregnancy
    Leukocytosis of the new born
2. Pathological leukocytosis
    Post-hemorrhagic leukocytosis
    Cachetic leukocytosis
    Ante-mortem leukocytosis
    Inflammatory leukocytosis

We may have directly following meals a slight rise. The rise can best be determined by comparing the blood taken directly after a meal with that taken three hours later. Leukocytosis is

Number.	Name.	Age	Diagnosis.	Complications	Hemoglobin	Leukocytes.	Red Cells.	Time of Estimate	Day of Operation After 1st Estimate.	REMARKS.
1	Mrs. A.	39	Endometritis.	Cystitis, acute		26,666			4 day	Curettage. Recovery.
2	Mrs. B.	38	Uterine fibroid.	Hemorrhage, almost continuous	15 per cent 15 " 17 " 24 " 31 " 48 " 49 " 51 " 55 " 61 "	5,250	4 000,000 3,100,000 3,100,000 4,600,000 4,500 000 5,500,000	1½ yrs. after 1st symt'ms	35 "	Hysterectomy. Recovery.
3	Mrs. H.	38	Abdominal tumor.	Gastritis and obstruction.	65 "	9,250		6 mo.	14 "	Cancer of stomach and omentum. Lived about 6 weeks. Hemorrhage in tumor mass.
4	Mrs. C.		Extra uterine pregnancy.		36 " 34 " 25 "	24,000 14,830 8,400		1 mo.	3 "	Tubal Pregnancy. Abdomen full of blood. Recovery.
5	Mrs. J.		Uterine infection.	Miscarriage.		14,666 8,000 13,000		1 wk. 10 days	3 " 16 "	1st operation—curetting. 2nd operation—post vaginal. Pus in tubes. Recovery.
6	Mrs. H.	28	Ovarian cyst.		50 "		3,071,000	1 year	1 "	Multilocular ovarian cyst. Recovery.
7	Mr. C.	32	Acute appendicitis.	Rupture.	94 "	9,200 6,500		10 days 60 days	4 " 5 wks.	1st operation—ruptured appendix, pus, appendix left. 2nd operation, no pus, appendix removed, Recovery.
8	Mr. F.J.	38	Abdominal tumor.	History of gastritis for 5 years and vomited blood.	52 " 56 "	7,000	3,940,000	6 mo.	17 day	Tumor of duodenum adherent to stomach. Gastro-enterostomy. Recovery.
9	Mrs. S.	21	Endometritis gonorrheal.	Cystitis, retroversion.	90 "	12,000	4,200,000		3 "	Pus in urine. Alexander's curettage. Recovery.
10	Mrs. S.	29	Retroversion.	Lac. C. and P.	65 "	6,333		years	2 "	Alexander's trachelorrhaphy, and C. operation. Recovery.
11	Mrs. S.	33	Pelvic inflammation, prolapsed kidney.	Retroversion.	79 " 80 "	9,000 7,000		6 mo.	3 "	Nephropexy—Alexander's. 2nd operation, appendectomy, salpingetomy. Recovery.
12	Mrs. T,	34	Chronic pelvic inf.	Lacerated perineum.		7,777		4 years	1 "	No pus cavity—Salpingectomy, partial oophorectomy. Recovery.
13	Mrs. T.	42	Ventral hernia.	Post operative.	85 "				1 "	Recovery.
14	Mrs. W.	27	Lacerated C. and P.	Acute bronchitis.		28,750 7,200			7 "	Operation upon cervix and perineum. Recovery.
15	Mrs. R.	27	Chronic pelvic inflammation.	Chronic appendicitis.	91 "	8,400		3 years	1 "	No pus cavity; salpingectomy, appendectomy, trachelorrhaphy. Recovery.
16	Mrs. R.	30	Retroversion.	Chronic appendicitis.	69 "	7,900		Several years	1 "	No pus cavity; Ferguson's operation, appendectomy. Recovery.
17	Miss R.	36	Retroflex'on.	Dysmenorrhea.	76 "				1 "	Alexander's dilatation of cervix. Recovery.
18	Mrs. P.	38	Displaced pelvic organs.	Hernia and Lac. C. and P.	85 "		5,600,000	Several years	1 "	Ventro-suspension. Operation on C. and P. Herniotomy. Recovery.
19	Mr. P.	42	Hemorrhoids.			6,200		1 day	1 "	No sinus. Operation. Recovery.
20	Mrs. McC.	30	Lac. C. and P.			6,666		1 "	1 "	Trachelorrhaphy, perrinorrhaphy. Recovery.
21	Mr. J.		Bowel obstruction.	Fullness marked in R. iliac region.		7,000 8,750 12,000		3 " 27 "	1 "	Obstruction above growth (cancerous). Resection of bowel. Intermuscular abscess developed later. Lived one year.
22	Mrs. H.	35	Pelvic adhesions.	Chronic Salpingitis.	82 "	4,500		Sick long time.	2 "	Salpingectomy and resection of ovary. No pus cavity. Recovery.
23	Mrs. G.	23	Salpingitis, acute.			22,000		10 days	1 "	Tubo-ovarian abscess. Vaginal drainage. Recovery.
24	Mrs. K.	30	Pelvic infection, chronic.	Chronic appendicitis.		6,000		Several months	1 "	No pus cavity. Salpingectomy appendectomy, trachelorrhaphy. Recovery.

Number.	Name	Age	Diagnosis.	Complications	Hemoglobin	Leukocytes.	Red Cells.	Time of Estimate.	Day of operation After 1st Estimate.	REMARKS.
25	Mrs. K.	42	Cystitis, acute.	Gastro enteritis.		15,666 10,750			1 day	Pus in urine. irrigated bladder.
26	Mrs. K.	42	Pelvic inflammation. Chronic gonorrheal.	Chronic cystitis.		8,120			3 "	Pus in urine. Laparotomy, perineorrhaphy. Recovery.
27	Miss J.	18	Retro-displacement.	Endometritis.		6,333			1 "	Alexander's curettage. Recovery.
28	Mrs. E.	34	Retroversion. Lac. C. and P.			4,000			1 "	Laparotomy, perineorrhaphy. Recovery.
29	Miss G.	26	Chronic appendicitis,		70 per cent	7,000		2 or 3 years	2 "	No abscess. Appendectomy. Recovery.
30	Miss E.	26	Endometritis.	Dysmenorrhea.	75 "	6,750			1 "	Dilatation, curettage. Recovery.
31	Mrs. C.	42	Chronic pelvic inflammation.	Lac. C. and P.		7,000		Several years	3 "	No pus cavity. Laparotomy-trachelorrhaphy perinorrhaphy. Recovery.
32	Mrs. C.	25	Chronic endometritis gonorrheal.			9,750		Several weeks	1 "	No pus cavity, dilatation, curettage. Recovery.
33	Mrs. A.	27	Pelvic infection, gonorrheal			11,250 8,900		3 weeks	10 "	Laparotomy. No pus cavity. Tubes diseased and thickened. Recovery.
34	Miss A.	35	Pelvic infection, metritis.	Gastric dyspepsia.	61 "	10,200 10,666	5,625,000	1 year 1½ year	1 " 1 "	1st operation—pus tube, removal. 2nd operation—Hysterectomy. Recovery.
35	Miss H.	40	Nephritis.	Enterocolitis.		6,000	1.000,000			Albumen and casts.
36	Miss H.	40	Nephritis (same case as 35).	Enterocolitis.	45 "	4,830	2,111,000			Urine separated, Recovery.
37	Miss N.	23	Enlarged or cystic ovaries.	Metrorrhagia.	65 "	6,300		2 mo.	3 "	Trachelorrhaphy. No pus cavity. Cystic ovaries and cystic tubes removed. Recovery.
38	Miss L.	19	Nephritis.	Prolapsed kidney.	73 "		3,900,000			Nephropexy. Much improved.
39	Miss S.	19	Chronic pelvic inflammation.	Attacks of appendicitis.	55 "	7,500		1 year	3 "	Tubercular peritonitis. Cysts of ovaries. Recovery.
40	Mrs. B.	27	Pelvic inflammation chronic.	Miscarriage four months since.	72 "	7,250		Sick 2 or 3 yrs.	1 "	Laparotomy. No pus cavity. Recovery.
41	Mrs. A.	34	Extra uterine pregnancy.		70 " 67 "	14,000		3 mos.	3 "	Abdomen filled with blood clots. Recovery.
42	Mrs. B.	42	Chronic pelvic inflammtion.	Cystitis.	61 "	8,250			1 "	No pus cavity. Laparotomy. Recovery.
43	Mrs. B.	37	Endometritis.		70 "	8,880			1 "	Curettage. Dilatation. Recovery.
44	Miss B.	20	Retroversion.	Endometritis.		7,750			1 "	Curettage, Alexander's. Recovery.
45	Mrs. K.	24	Abortion.	Septic endometritis.		17,250 21,500 5,750 15,500 5,750		3 weeks 29 days 31 " 34 " 45 "	3 "	Curettage and irrigation of uterus; pus present. In 3½ weeks, count normal. Recovery.
46	Miss K.	37	Gastric tumor.		70 "					Exploratory. Gastro-enterostomy Gastric cancer. Lived 6 months.
47	Mrs. G.	24	Oophoritis.	Lac. C. and P.		6,250			1 "	Oophorectomy, salpingectomy, trachelorrhaphy, perrinorrhaphy. No pus cavity. Recovery.
48	Mr. K.	50	Gastric tumor.	Gastric fermentation.		10,750		Sick long time.	1 "	Cancer of pylorus-gastro-extrostomy. Improved for a time.
49	Mrs. P.	38	Pelvic infection.			13,000 8,000 4,250		3 weeks 4 " 5 "	10 "	Pus tubes, removed. Recovery.
50	Miss W.	22	Gonorrheal endometritis.	Retroversion.		13,400 14 000		3-4 "	3 "	Curettage, Alexander's. Recovery.
51	Mrs. R.	38	Abortion.		40 " 50 "	8,521 21,500 20,250		1 week 2 weeks 3 "		Curettage. No pus. operation 1 wk. before 1st count. Died of hypostatic pneumonia, 5 wks.
52	Miss L.	29	Lumbar cystic tumor.	Prolapsed R. kidney.		7,000	6,000,000	1 year		No pus cavity Colloid cystic tumor. Curetted and packed. Recovery.

Number.	Name.	Age.	Diagnosis.	Complications.	Hemoglobin	Leukocytes.	Red Cells.	Time of Estimate.	Day of Operation After 1st Estimate.	REMARKS.
53	Miss C.	22	Chronic pelvic inflammation.	Endometritis.		8,500		1 year	2 days	Laparotomy. No pus cavity. Recovery.
54	Mrs. A.	34	Extra uterine pregnancy.		20 per cent	15,000		1 month	5 "	Abdomen full of blood, some infection; ovarian cyst. Lived 10 days.
55	Mrs. J.		Vaginal cyst.	Lac. C. and P. cystocele hemorrhoids.	70 "	8,000		3 years	2 "	Operated for cyst laceration; hemorrhoid, cystocele. Recovery.
56	Mrs. M.		Uterus retroverted.	Goitre.	77 "	6,700	6,141,000	6 years	1 "	Ventro-suspension. Recovery.
57	Miss M.	28	Cystitis; gastro-enteritis.	Retroversion. Endometritis.		10,000	5,000,000	6 mos.	2 "	Curettage, Alexander's; bladderirrigated. Recovery.
58	Miss L.	40	Umbilical sinus.		70 "	5,000		2 years	2 "	Dissected out sinus. Recovery.
59	Mrs. H.	26	Pelvic disease.	Endometritis.	70 "	10,700			3 "	No pus cavity; some pus; appendectomy salpingectomy. Recovery.
60	Mrs. B.	47	Pelvic inflammation. Chronic appendicitis.	Endometritis.	75 "	11,750			2 "	No pus cavity; appendectomy, salpingectomy. Rep. C. and P. Recovery.
61	Mrs. K.	27	Chronic pelvic peritonitis.		80 "			Several months	2 "	Salpingectomy. No pus cavity. Recovery.
62	J. M.	57	Obstruction pylorus; Stomach dilated.	Gastric fermentation.	75 "	7,200				Carcinoma of pylorus. Gastro-enterostomy (Button). Greatly improved for 8 months.
63	Miss L.	28	Membranous colitis with chronic obstruction.	Prolapsed R. kidney.	70 "	7,500		3 years	2 "	Exploratory Op. Anderson, R. abdomen. Improved some.
64	Mrs. T.	41	Lacerated C. and P.	Nephroptosis.	46 "	5,400		4 years	2 "	Repair of C. and P. Curettage. Recovery.
65	Mrs. S.	31	Pelvic adhesions.	Appendicitis, chronic.	80 "	5,000		1 year	5 "	Tubes and appendix removed. Ovarian resection. Recovery.
66	Mr. D.	45	Osteo-myelitis, chronic of tibia.		85 "	4,750		20 years	2 "	Opened tibia; removed dead bone. Recovery.
67	Miss H.	24	Enlarged and prolapsed ovaries.		75 "	7,000		5 years		Large cystic ovaries; resected. Recovery.
68	Mrs. G.	55	Lacerated C. and P. Hemorrhoids.	Uterine prolapse.	70 "	9,400		10 years		Perineum repaired and hemorrhoids operated. Recovery.

TABLE EXPLANATION

The accompanying table shows the blood count and hemoglobin estimate in a series of cases I have operated upon, where the estimate was made or the records obtainable. In nearly all of the cases operated upon, the count was high when pus was present; where no pus was present, the count was low, with some notable exceptions, viz., hemorrhage, extra-uterine pregnancy, etc. The hemoglobin when low showed the wisdom of delay when possible, as in cases 2 and 8, especially. In cases of high white count, delay was rewarded by a satisfactory outsome as shown in cases 7, 6, 14, 35, and 49. The red count was made in comparatively few cases. It corresponded in rate of increase or decrease with the hemoglobin, as illustrated in case 2.

Under "Diagnosis" is meant the diagnosis previous to operation. A general term is used, such as "pelvic inflammation," "salpingitis," etc. "Complications" indicates any other disease present. Some of these complications have influenced the white count, or the estimate of the hemoglobin. "Day of estimate" signifies the day after the patient first noticed the symptoms of the disease when possible to determine. "Day of operation" means the number of days after the first count. Under "Remarks" is mentioned the presence, or not, of pus or pus cavity, operation performed, operation delayed, result of operation, etc. "Laparotomy" usually means appendectomy, salpingectomy, total or partial oöphorectomy.

These counts were made by the internes of the hospitals. Although the table is not as exhaustive as I would wish, it demonstrates to a satisfactory degree the accuracy of the estimate, as it corresponds in most cases to the pathologic finding at the time of operation, or the clinical symptoms present. I have purposely taken major and minor cases indiscriminately to make a table of counts and estimates in order to determine the real value of blood examinations. A differentiation of the blood cells is not taken account of in this paper.

Where there was an acute cystitis the count was high for a time. Acute inflammatory troubles, such as acute bronchitis, gave a high count. A good example is shown in case 14. The operation was delayed with propriety, the case doing nicely after the count was low. Catarrhal or subacute and some chronic cases of gonorrheal infection of the tubes and ovaries have given a rise in the leukocyte count, as have also hemorrhagic cases. The count is 15,000 to 24,000 at times in hemorrhage, six to twenty-four hours afterwards. There is a decrease in the red count and hemoglobin proportionately as shown in cases 2, 6, 8, and 36. Extra-uterine pregnancy gives as a rule a high white count and low hemoglobin. The high count may indicate pregnancy, abscess, or hemorrhage. With the estimate of the hemoglobin a more positive diagnosis can be made.

present in pregnancy also. In the new-born it may be 30,000; in six months it is lowered to 12,000 per cubic millimetre. In post-hemorrhagic leukocytosis the hemoglobin is lowered also. It soon rises unless it is a continuous hemorrhage, when it may not be present, as shown in case 2. Leukocytosis of the cachetic is observed in some cancerous or tubercular patients, as in case 48. Inflammatory leukocytosis is observed in colitis, gastric intestinal inflammation, gonorrhea, peritonitis to a slight degree, and in acute bronchitis, pneumonia, or forming abscesses to a marked degree (10,000 to 40,000).

The leukocyte count varies according to these modifying factors and to the accuracy of the microscopist. By excluding certain conditions, and comparing with the clinical symptoms, the estimate is sufficiently accurate to be of great benefit in arriving at a positive diagnosis. Without this test, we can often be reasonably certain that there is pus, yet it is eminently more satisfactory to have figures to prove our position. Dr. O. T. Osborne in an article read before the Connecticut State Medical Society in June, 1902, says: "In simple localized inflammations in which the lymphatic glands are not involved, we do not have leukocytosis until pus is formed. Hence in suspected concealed pus formation, it becomes a matter of diagnostic importance to ascertain whether or not there is a leukocytosis, which, if present to the amount of 15,000 or more, is almost positive proof of pus." Stengel says: "In acute abdominal obscure inflammation, during the first forty-eight hours, the count is of great value. 15,000 and above is a sure indication of pus. If the symptoms of appendicitis are present the first forty-eight hours, operation is indicated." Reed states that "A marked leukocytosis taken in connection with other symptoms is confirmatory of suppuration, which may be situated so remotely in the pelvis as to defy detection." Phillips Lyon says: "The leukocytes are characteristically increased or diminished in certain conditions, and their absolute and differential counting are of great practical value in clinical medicine, often being decisive in making a diagnosis.

Cases 23, 45, and 49 are typical cases in which the operation subsequently confirmed the suspicion of pus diagnosed by the white count. In case 7 we were unable to make the count early, but in ten days after the attack it was sufficiently high to indicate pus, considered with the clinical symptoms. Case 5 showed a leukocytosis quite early. Emptying the uterus lowered the count; the infection, however, had extended beyond the uterus. A second operation revealed the pus,—a tubo-ovarian abscess. The count soon became normal after drainage. Case 14 gave us a high count because of the acute bronchitis present. As soon as this subsided the operation was performed. Acute catarrhal inflammation of the bladder has given high counts also, as seen in cases 1 and 9.

HEMOGLOBIN.—The estimation of the hemoglobin gives us a very valuable sign, and it is safe to conclude that with no other contradiction, if the hemoglobin is above 70 per cent the patient can stand an operation of ordinary severity and duration. It is true that many operations are performed with the per cent much lower, 50 per cent of hemoglobin is frequently sufficient in short operations. I am convinced that it is a safer plan to increase the per cent until it does reach that point or higher, if possible. An operation of short duration can often be successfully done with the per cent not more than 35 to 50. Stengel agrees that 30 per cent marks the lowest limit for operations. Mikulicz also adopts the above per cent as the lowest limit for operation. Other authors also agree with this.

Cases 4 and 54 illustrate a forced operation with a low per cent. Authors agree that haste should be made in the preparation and the operation in emergency cases when below this mark. In these two cases the operation was as speedy as possible. Neither bore the operation well. It was necessary to resort to hypodermoclysis in order to save the patients. The jaundiced appearance of some patients may lead us to believe there exists a gall-bladder inflammation; a mistake of this sort is avoided by the blood-test. A few cases reported in brief will illustrate the value of this examination.

In case 2 there was a marked cachexia. The hemoglobin estimate caused us to delay the operation until the per cent reached a safe line, which was after a month's stay in the hospital. Beefsteak and iron, with rest and the prevention of the heretofore almost continuous flow of blood, raised the per cent from 15 to 55. The patient's color and general health changed greatly for the better. The operation was borne well and recovery was uneventful.

Case 4 illustrates the low per cent of hemoglobin and high leukocyte count in extra-uterine pregnancy. This was a very desperate case. When I was called to see her, she gave very few signs of extra-uterine pregnancy. Two days later she was taken suddenly with a sharp attack of pain, and fainted. She was almost pulseless, and the shock was so great that it was thought advisable not to remove her to the hospital at that time. In three days, however, she rallied and was taken to the hospital where further examination was made. The low per cent (30) of hemoglobin and high leukocyte count were confirmatory tests which made us conclude positively that our diagnosis was correct. The hemoglobin continued to decrease, which determined the necessity of an operation without more delay. The third day after coming to the hospital, the operation was performed. The abdomen was filled with blood and blood-clots, and the fetus was found bulging from the tube. Although but twenty-five minutes were consumed in the operation, the patient did not stand it well. She made a gradual recovery, however.

Case 6 is a case in which the jaundiced hue was very marked. On account of the diagnosis, that of a freely movable ovarian cyst, the per cent (50) of hemoglobin was not a contra-indication to operation, as we thought it would not be a l[illegible] operation. Convalesence was uneventful.

Case [illegible] is a case in which delay was thought advis[illegible] so that a careful examination of all the [illegible] stomach contents, etc., could be made [illegible] so to raise the per cent of hemoglobin if [illegible] considered it an unfavorable case. [illegible] an opportunity of getting the ali[illegible] in the most suitable condition, free [illegible] material. Feeding per rectum was [illegible] for a few days in order to lessen the [illegible] the gastric and duodenal tissues. The [illegible] is careful management before the [illegible] manifest in the perfect condition [illegible] subsequent to operation; he had no [illegible] ing. Rectal feeding was contin[illegible] subsequent to the operation.

[illegible] which illustrates also the val[illegible] combined hemoglobin estimate and leu[illegible] It was a case somewhat obscure in history. The woman was 32 years old, and had had a child two years before. Four weeks previous to entering the hospital, she had a sharp attack of pain, shooting in character, in the region of the right ovary. This lasted about twelve hours. Most of the tenderness remained in the median line, low down. Two weeks later she had a similar attack, but not so severe and of shorter duration. She remained in bed a week. One week later she had a very mild attack, and the day before entering the hospital she had a very severe attack of pain. The pain was more general and the soreness was mostly in the median line low down. She had menstruated two weeks previous, one week earlier than usual. A diagnosis of appendicitis had been made by two other physicians. Examination revealed a slight bulging in the vagina. Her temperature ranged from 99° to 101°; the hemoglobin estimate was 20 per cent, and the leukocyte count 15,000. These signs pointed in the direction of hemorrhage from an extra-uterine or possibly some infection. On account of the patient showing signs for the worse the operation was not delayed. It revealed an old extra-uterine pregnancy, the abdomen being completely filled with blood and blood-clots. There was a cyst of the right ovary that probably gave symptoms of appendicitis previous to operation. The cyst was about three and one-half inches in diameter with some adhesions around it. There were adhesions of the uterus, ovaries, and tubes. This case made a desperate struggle, but succumbed, in about two weeks after the operation, to diffuse peritonitis.

Case 41 illustrates, to a mild degree, the confirmatory tests of blood examination. This was an extra-uterine pregnancy being tubo-ovarian. There was not the opportunity for hemorrhage as in the other cases recorded.

Other facts determined by the blood examination besides the ones enumerated are, the Widal reaction for typhoid, which, although a late sign, is nevertheless a positive one. The discovery also of the parasite in fresh blood is a sure diagnosis of malaria.

THE IMMEDIATE PREPARATION

The immediate preparation of the patient is attended to when, by a careful examination, we have decided that no preliminary stay in the hospital is required, or when the patient has arrived at a satisfactory state of health so that an operation may be undertaken. It is unnecessary to go into details, as we are all agreed upon certain points, such as the nearly empty state of the bowels, bladder, and stomach.

The field of the operation may be prepared according to the fancy of the surgeon, many claiming advantages for a certain method. It should be thoroughly cleaned with soap and water, and so far as shaving is concerned, or scrubbing, I prefer the morning of the operation, for the reason that any abrasion caused by the razor or brush the day before, might be the means of aiding infection by causing the growth of micro-organisms upon this abraided surface. If done the morning of the operation pus is less apt to be present because of the shorter time intervening. I believe the condition of the patient at the time of the operation, perfect technique, and complete work have more to do with the results than does the preparation of the field of operation, other than by careful aseptic cleansing.

Professor Mikulicz does not use soap and water as a preliminary wash. He uses a spirit soap to scrub the parts for five minutes, then uses a sterile towel to cover the parts after the excess of soap has been removed.

CONCLUSIONS

The following are the conclusions which I wish to offer:

1. The necessary preparation of a patient for an operation is too often neglected.
2. The time for the preparation is frequently too short.
3. The general state of the patient before operating is as important as the pathology of the local disease present.
4. Many post-operative complications arise that could be avoided by proper preliminary treatment.
5. The leukocyte count and hemoglobin estimate should be employed as an aid to diagnosis and as a basis of treatment in surgical cases before operation.
6. By the blood examination we may be able to confirm our diagnosis made from clinical symptoms, or we are able to make a diagnosis of concealed pus when not determined otherwise.
7. We may save our patient's life by delaying the operation until the per cent of hemoglobin reaches a safe standard, or the white count reaches nearer the normal line.
8. We may be justified in operating at once in a case where the white count is rapidly rising or the hemoglobin is gradually falling.

REPORT OF A CASE OF OPERATION FOR OBSTRUCTION OF THE BOWEL IN A VERY YOUNG INFANT

By F. J. Campbell, M. D.

FARGO, N. D.

I am led to report the following case wholly because of the young age of the patient, and in the hope that I may thereby learn how rare is an operation for obstruction of the bowel in an infant as young as four weeks and four days.

The case occurred four weeks ago, and was an irreducible right inguinal hernia, having been strangulated about twenty-four hours when I first saw it. The baby had retained nothing on his stomach for twenty-four hours, was vomiting bowel contents and crying constantly from pai[illegible]

After a half hour's ineffectual effort at reduction I sent him to the hospital. Even under complete chloroform anesthesia the hernia c[illegible] not be reduced, so I operated as rapidly as possible. The gut was very dark, but was returned to the abdomen, and regained its normal condition [illegible] a bowel movement the next morning [illegible] The baby slept for six hours after the [illegible]n, then nursed, slept again for six hours, [illegible] de a prompt, perfect recovery, with a rad[illegible]e of the hernia. The undescended right [illegible] as found in the inguinal canal. On ac[illegible] a severe cough, which the little patient [illegible] for several days, I chose chloroform as [illegible]sthetic, and he almost stopped breathing [illegible]ring the operation.

[illegible] not the means here for looking up the [illegible]nd I would like to know upon how young [illegible]his operation has been done.

NORTHWESTERN LANCET

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DOCTOR CRILE'S STUDIES

A preliminary note on a method of resuscitation of apparently recently dead animals, is the title of a future paper to be published in the Cleveland Medical Journal. It reads as follows:

"By the combined use of intravenous infusions of adrenalin, artificial respiration, and rhythmic pressure upon the thorax over the heart, animals dead as long as 15 minutes were restored to life. Animals decapitated were made to live 10½ hours."

CRUELTY TO ANIMALS

A bill has been introduced in the House of Representatives in Washington to amend Section 4386 of the revised statutes.

The kernel of the statute is, that railroad companies and other parties transporting cattle, sheep, swine, or other animals from one state to another are prohibited from "confining the same in cars, boats or vessels of any description for a longer period than twenty-eight consecutive hours, without unloading the same for rest, water, and feeding for a period of at least five consecutive hours, unless prevented from so unloading by storm or other accidental causes."

The amendment proposes to change the word twenty-eight to forty; that is, to increase the time during which cattle in transport may be kept crowded together without the possibility of freedom of motion, or of lying down without the certainty of being trampled to death.

In the state of New York the law is better, the time for transportation is twenty-four hours, and the period of rest is ten.

The dangers of prolonged transportation and the attendant inconveniences should appeal to everyone. The lack of water, food, rest and relaxation and the exhaustion and excitement incidental to the trip may arouse latent pathological processes, and produce auto-infection with high temperature and render the animal unfit for food for human beings.

Unquestionably many illnesses arise from just such causes in animal and in man. The outward appearance of the meat may be presentable, but the ill effect of exhaustion, excitement and deprivation may start a chain of symptoms that is far reaching and destructive. The amendment is proposed to favor the transportation companies who are competitors and carriers. It has been suggested as a solution that the cattle be slaughtered before embarking, packed in refrigerator cars, and sent to their destination. The packing companies will object to any such arrangement, as it would be impossible for them to care for every part of the animal as they do now in the great packing establishments. Not a particle is wasted, every thing is important and has its place. From a humanitarian standpoint, animals should be considered as possessed of some feeling and capable of enduring a reasonable amount of suffering; beyond that they should not be pushed. If our meats are to be wholesome and healthful the animals must be kept in the highest possible state of nutrition and as free from disease as reasonable care can make them.

It is to be hoped the amendment will be lost.

NEW DISCOVERIES

The press announces new discoveries in medicine and surgery by attractive headlines and padded copy. Occasionally the subject is of great importance to both lay and medical men, and the former question the latter as to the correctness of the article. As is frequently the case the medical press contains no mention of the news, for medical men are skeptical and refuse to believe unless demonstration and experience prove the value of the discovery. For instance, Dr. Crile has a preliminary note in the Cleveland Medical Journal that is condensed into four lines with no particulars to guide the reader. The daily press, however, is able to present an eighth of a column of matter in which the experiments assume to resuscitate all dead persons. Earlier in the month came a report that a German biologist had discovered a hay-fever serum. The professor was travelling in a railway car with the window open. Passing a rye field the pollen irritated his nasopharynx, and he had hay fever, closing the window the disease gradually subsided. This was hint enough. Rabbits were inoculated with the poison extracted from the grasses, and the serum injected into the unfortunate hay-feverite for six weeks while he sits in the house with closed windows with strict orders not to go out of doors. Presumably after six or eight weeks of hypos behind closed doors the sufferer is cured, provided there has been a good sharp frost. Such statements are amusing to medical men, but are accepted seriously by the public, who are constantly on the lookout for new remedies.

A few years ago some interesting fellow attempted to immunize hay-fever subjects by filling them full of an extract of rag-weed, and thus do away with the disease, but the remedy and the recovered are among those who fall by the wayside.

The newest remedy, the one that seems at least reasonable, is the one proposed by Dr. Charles Barrows, of New York, an injection, intravenous, of a one to 5,000 solution of formalin in cases of sepsis. The experiment was tried in a case of sepsis in which the temperature reached 108°. A blood-test was made before the injection, and the stream was found filled with the streptococcus. After the injection the temperature dropped to 104°, and the bacilli were diminished, a second and third injection was made after which the pulse and temperature dropped to normal, and the patient recovered.

There is nothing very extravagant in this report, however unreliable it may be. If an occasional case is benefited by an injection of formalin it is as good as any other remedy. The fact that formalin is looked upon as a preservative, and prevents the formation and growth of bacteria is suggestive of good results in properly selected cases of infection from various sources. Undoubtedly it will be used in many cases and in many where failures may be expected.

The remedy is so powerful and poisonous that an overdose may cause the death of the patient. Until the remedy has been given further trial and the proper non-poisonous dose discovered, it must be used with great caution.

AN ABORTIONIST SENTENCED

Edward Bond, a professional abortionist in Minneapolis, was indicted by the Grand Jury Oct. 31, 1902, and after a two days' trial in the district court, January 14 and 15, 1903, he was found guilty and sentenced to state's prison for a term of three years. Bond was also indicted for manslaughter in the first degree as his victim, Edith Chant, died from sepsis.

Bond claimed that he was not a practitioner of medicine, had no license, and knew but little of drugs. He denied the attempt at abortion, but admitted making a social call and carried a grip which contained a few surgical instruments and a bottle of carbolic acid. During the social visit he courteously examined the woman and applied some carbolic acid solution to the inner surface of the uterus.

The conviction of Bond is the second conviction with imprisonment secured in the state, and it speaks volumes of praise for the members of the State Board of Medical Examiners, particularly the secretary, Dr. C. J. Ringnell. A few years ago a Dr. Pierce, of St. Paul, was convicted of a similar crime and served out a sentence at Stillwater.

It is usually a discouraging process to attempt to bring an abortionist to trial. He admits no witnesses to his private office, hence the testimony must be wholly circumstantial, and one witness is as good as another in the courts of law. Occasionally, as in this case, the victim dies under circumstances which justify legal investigation, and the circumstances which surround the operator and his victim are convincing to any fair-minded jury. Mr. Leary, of the County Attorney's office, deserves much credit for his manner in presenting the case, and his efforts will be appreciated by the medical profession. It is refreshing to find a lawyer who is willing to prosecute and who feels that he is doing his duty. Many other convictions of abortionists might be secured if all county attorneys were as interested in the promotion of public morals as Mr. Leary has shown himself. Heretofore the county attorneys have declined to push the claims of the Board of Examiners on the ground that the testimony was hearsay or insufficient to convict.

Bond was notorious and careless in his methods, and is doubtless responsible for other deaths and states of chronic invalidism. The conviction of this man will teach others to abstain from the practice. A few will take warning and use more care in sterilizing patient and instruments. The rest will hesitate a moment only, and continue to take chances.

It is marvelous that more accidents do not occur in the hands of medical men, and it is amazing to know that so many miscarriages are brought about by women who introduce the articles of commerce into the uterus without mishap. Catheters, lead-pencils and sharp sticks are blindly thrust into the vagina, and find their way into the uterine cavity, and yet comparatively few are seriously injured. It is no uncommon experience in the life of the physician to be told that one individual has brought about from three to five miscarriages with no apparent impairment of health.

STON MEDIC LIBRARY APR 11 1904

It takes more than an occasional death, the wreck of a train, or the explosion of a mine to frighten the people for more than a day.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

R. O. Beard, M. D., Secretary

Stated meeting, Wednesday evening, January 7, 1903, at the Hotel Ryan, St. Paul; the Vice-president, Dr. Wm. Davis, in the Chair.

Dr. A. Shimonek, of St. Paul, presented the following specimens:

(1) A multiple uterine fibroma upon which a papillomatous carcinoma had been implanted. Removal had proved difficult, but had been successfully accomplished and the patient had made a good recovery.

(2) An enlarged appendix removed from the scrotum in which it formed a part of an incarcerated hernia; the patient being a man of seventy-six years, who had recovered perfectly.

(3) A double pyosalpinx with an ovarian cyst imposed upon it.

Dr. Arnold Schwyzer, of St. Paul, presented a specimen of a multiple fibroma in an appendage of which a local peritonitis and necrosis had occurred. The tumor had been successfully removed.

Dr. W. A. Dennis, of St. Paul, exhibited a perforating typhoid ulcer, removed post mortem, with report of case illustrating the occurrence of perforation without symptoms.

Dr. Judd Goodrich, of St. Paul, read a paper entitled "Gastric Ulcer and its Surgical Treatment."

The discussion upon this paper was opened by Dr. J. H. Dunn, who thought that the author put too much emphasis upon hemorrhage as an indication for operation. In his judgment this was a rare occurrence as such an indication. If he were to formulate rules of indication, they would be (1) That all cases of chronic gastric ulcer which do not yield to reasonable medical treatment, should be explored. (2) That all obstructive cases should be operated upon. (3) Hemorrhages, although he doubted the desirability of immediate interference in such an event. He cited a severe case in support of this view, in which recovery had apparently ensued after repeated hemorrhages without operation and others of similar character. Hemorrhage generally stops. The hemorrhagic case is difficult to deal with and frequently dies. He considered hemorrhage, therefore, as the least forceful indication for operation. (4) Perforation, in illustration of which emergency he cited operative cases in which improvement or recovery had occurred.

He believed that most of the operations being done for gastric ulcers were indirect operations, i. e., gastro-enterostomies; and that in time more direct work would be and should be done by excision. The tendency to the development of carcinoma is an indication for this method. Gastro-enterostomy is of course most successful in obstructive cases. Such cases should be operated upon at favorable time and sufficiently early and by direct excision.

Dr. Andrews acknowledged an invitation to take part of discussion, and deprecated early operation.

Dr. H. B. Sweetser, of Minneapolis, regarded repeated hemorrhage as an indication for operation. He cited cases in illustration. Operation might well be undertaken in intervals between hemorrhages.

Dr. Rothrock regretted that Dr. Goodrich did not go into the etiology and pathology of these cases. The general tendency to-day is to regard the causation of ulcers of the gastro-intestinal tract as bacterial or toxic from bacterial infection. No one questions the desirability of operation after perforation. In hemorrhagic cases a large percentage recover. Operation should be limited to recurrent cases, and is a life-saving measure.

Dr. Judd Goodrich, in closing the discussion, thought that the best authorities did not advocate operation in acute hemorrhages, but did so in recurrent cases. Dr. Robeson did not advocate excision in the majority of cases, but regards gastro-enterostomy as giving the most favorable results.

Dr. A. E. Benjamin, of Minneapolis, read his inaugural thesis upon "The Preparation of the Patient for Operation and the Relative Value of Blood Examination."

HENNEPIN COUNTY MEDICAL SOCIETY

C. G. Weston, Secretary, pro tem

Annual meeting held in Society's rooms, Jan. 5, 1903, Dr. J. W. Bell, President, in the Chair.

The report of Board of Censors was as follows:

Your Board of Censors desire to report favorably upon the following applications for membership, being those of:

Dr. A. E. Anderson, Dr. Florence Baier, Dr. B. Dearborn, Dr. Frederick A. Erb, Dr. Jas. Hynes, Dr. Elizabeth Ingraham, Dr. N. M. King, Dr. Wm. B. Linton, Dr. Clara M. Luther, Dr. J. A. Monahan, Dr. D. W. McDugald, Dr. E. H. McIntyre, Dr. H. N. Orton, Dr. D. Schwyzer, Dr. Geo. H. Thomas, Dr. Thorvald Thorkelsen, Dr. H. L. Ulrich, Dr. A. E. Wilcox.

R. J. Hill, Chairman.

Upon vote by written ballot all were elected to membership.

Dr. Erdmann read a communication from the Minneapolis Medical Club urging that recommendations of the medical societies be considered in the appointment of the next city physician. The doctor thought that the Hennepin County Medical Society should co-operate with the Minneapolis Medical Club to attain the ends above presented and he moved that a committee be appointed by the chair to co-operate with a committee from the Minneapolis Medical Club in properly presenting the matter to the mayor and the Board of Charities and Corrections. This motion was seconded and after discussion by Drs. Barton, Todd and Erdmann was carried, 19 affirmative and 11 negative votes being cast. Dr. Hill, Dr. Jones, Dr. Dunn, Dr. Sweetser and Dr. Barton were appointed as such committee.

The proposed constitution and by-laws was then taken up section by section, and these were passed with the following amendments:

Article 3, Section 2 was amended to read as follows:

Every reputable and legally registered physician who has resided six months in Hennepin county and who is practicing or will agree to practice nonsectarian medicine, shall be entitled to active membership. (Then continue from honorary members without change.)

This change was made on motion of Dr. Brown to *substitute the requirements suggested by the Am. Med. Assn.* for those proposed by committee on constitution and by-laws and was passed after considerable discussion.

On motion of Dr. Abbott it was voted to add Art. IX, Sec. 1 of old constitution to the new.

A motion of Dr. Brown to strike out the words "at its discretion" in by-law No. 3 was lost. A motion by Dr. Abbott to strike out "and report" in by-law No. 3 carried.

Motion of Dr. Dresbach to strike out "dismiss such charges or" in by-law No. 3 carried, and Dr. Nippert's motion to substitute the words "majority" for four-fifths in by-law No. 3 was lost.

Dr. Abbott's motion to substitute two-thirds for four-fifths in by-laws No. 3, No. 18 and No. 19 carried. Motion of Dr. Jones to add words "and discussions" after word transmission in No. 12 by-law.

The constitution and by-laws as amended were then adopted as a whole by unanimous vote.

Dr. Crume presented a patient suffering from what he believed to be a case of blastomycetic dermatitis of the hand, although microscopic confirmation of the diagnosis had not yet been made.

Dr. White showed photograph of case of blastomycetic dermatitis, and also presented sketches.

giving the microscopical appearances. He also presented a culture-growth of the organism.

Dr. Bell then presented his address entitled "Earlier Clinical Manifestations of Tuberculosis."

Upon motion of Dr. Hill the secretary was directed to cast the ballot of the society for election of present officers for ensuing year. The society then adjourned.

BOOK NOTICES

A Treatise on the Eye, Nose, Throat and Ear, for Students and Practitioners. By various authors. Edited by William Campbell Posey, A. B., M. D., Professor of Ophthalmology in the Philadelphia Polyclinic, etc., and by Jonathan Wright, M. D., attending Laryngologist to Kings County Hospital, etc. Illustrated. $7.00. Philadelphia & New York: Lea Brothers & Co.

Everything considered, this is the best book published in the English language upon the eye, ear, nose, and throat. Especially to be commended is that part devoted to the eye. Doctor Posey, who has edited this portion, must have devoted to his work a great deal of time, and has evidently taken great pains to perfect every detail of his department. In a work written by several authors we usually find some chapters good, some bad, some indifferent; but in this work every chapter is excellent, and while the choice of authors accounts in part for this excellency, it is evident that there has been a careful supervision over the whole. Most of the authors of this work are the younger men of the profession, and each has shown a determination to produce something better than has been published before. The entire book is profusely illustrated.

The first chapter, on the "Examination of the Eye," is written by Doctor Posey, who takes up the subject in a systematic and thorough manner. Doctor Posey says: "For the proper study of this important organ it is essential that the student proceed systematically and thoroughly, for while it often happens that a trained clinician is enabled by the brief recital of symptoms or by a rapid glance at the eye to make a proper diagnosis, it is better that the student, who has yet to attain experience and skill, should follow some settled order of investigation, and that for the purpose of future reference as well as to ensure accuracy, he should accustom himself to record faithfully all observations in an appropriate case-book."

If the practitioner follows this advice and the system set forth in the first chapter of this book, he will not be apt to make a mistake in his diagnosis. In this chapter are included the various means of diagnosis, as, for instance, the use of the ophthalmoscope.

Chapter II is devoted to the "Physiology of Vision," and is by William Norwood Suter, M. D., who has taken up the subject in a comprehensive manner, and using such simple language, illustrating as he goes, that even the beginner may understand as he reads. This is saying a great deal, for it is a subject which is usually made so complex that the reader is obliged to proceed very slowly, and often fails to comprehend what he reads because of a lack of simplicity in the language used.

The third chapter is devoted to "Refractive Errors in General," and is written by Alexander Duane, M. D., than whom there is no one more capable to write upon this subject. In addition to careful explanations of the various subjects under this head,—such as the use of test-lenses, skiascope, ophthalmoscope, etc.,—he has added a very practical paragraph, which we do not find in other similar works, upon the difficulties encountered in wearing glasses, which will prove of great aid to those inexperienced in refraction work who frequently are at a loss to understand their failures. There is also a paragraph on the adjustment of glasses, the analysis of glasses, and the hygienic treatment of refractive errors.

In so excellent a work it is difficult to state which chapter is better than another, but certainly one of the best chapters is that pertaining to the motions of the eye-ball and their derangements, by C. A. Wood, M. D. This covers the physiology and pathology of the extrinsic muscles of the eye-balls, a subject that causes more discussion in ophthalmic societies than any other, because there are those who have such radically opposing views. There are books published upon this subject alone by single authors who therein state their opinions, which are really unsafe for the inexperienced to read, because he forms conclusions which are biased. There are those who believe it is malpractice to ever operate for a muscular insufficiency, while there are others who almost invariably operate. Doctor Wood is one who is thoroughly conversant with these extremes, and he has studied the matter thoroughly and has had a large experience. He is not an extremist himself, but has adopted a medium ground. This chapter is instructive alike to the beginner and expert, and could not have been covered more completely or with fewer words than Doctor Wood has used.

Chapter V, "Diseases of the Orbit, Lachrymal Apparatus, and Lids," is written by R. A. Reeve, M. D., and is quite thoroughly illustrated by cuts taken from actual cases, which should be of great benefit in making diagnoses.

"Diseases of the Conjunctiva. ornea, and Sclera," by John E. Weeks, M. D., is well written, and is illustrated by colored plates, showing the various bacteria that find a habitat in the conjunctiva, the finding of which often enables the physician to make a differential diagnosis. Doctor Weeks has handled his subject in his customary scientific manner. It is to be regretted that nowhere in the book is described his recently devised operation for the restoration of the cul-de-sac to allow for the insertion of a prothesis where the orbit has become grown up. Indeed, the subject is not mentioned. This belongs to the previour chapter perhaps. One is surprised to find anything omitted in this book, because there is so much in it that is not contained in any other similar work.

Chapter VII, "Embryology of the Eye: Anomalies, Diseases and Injuries of the Iris, Ciliary Body, Choroid and Vitreous," by H. V. Würdemann, M. D. It is evident that Doctor Würdemann has spent a great deal of time upon his chapter, which is thoroughly illustrated, having some colored plates,. which the writer happens to know were made by Doctor Würdemann himself, although he modestly has not attached his name to the drawings. Plate 13, illustrating the anomalies and diseases effecting the iris and pupil, is especially fine and nothing like it can be found in any other American text-book which the reviewer has ever seen. This plate alone makes the book worth the price.

Chapter VIII is devoted to "Sympathetic Ophthalmia," and is written by H. Clifford, M. D. In this chapter the subject of wounds of the eye-ball and the management of bits of iron or steel in the eye, are covered. Included is the use of the various magnets and the latest schemes of investigation by the x-ray. This chapter also gives a description of the various operations for the removal of an eye, including the insertion of a glass ball. We are glad to note that Doctor Gifford speaks so favorably of Mules' operation, which writers of less experience with this operation so frequently condemn.

Chapter IX, "Diseases of the Retina, Optic Nerve and Its Cerebral Origin," is well handled by T. Holmes Spicer, F. R. C. S.

Chapter X, "Diseases of the Crystalline Lens," is by Edward C. Ellett, M. D. Doctor Ellett has the rare faculty of taking any subject, no matter how complex, and making of it such an explanation that anyone who reads may understand. This chapter is very thoroughly illustrated by drawings made from sections of the crystalline lens in all stages of degeneration, which were prepared by Doctor E. S. Thompson in the laboratory of the Manhattan Eye and Ear Hospital. Doctor Ellett describes the various operations for cataract without waste of words and in a direct style, so that the operator who reads cannot blame his mistakes to his instructions if he follows Doctor Ellett's directions.

An entire chapter is devoted to "Glaucoma" by E. Treacher Collins, F. R. C. S., Eng. As this is perhaps the most important disease with which the oculist or the general practitioner comes in contact, because of the fatal results to sight that so rapidly follow lack of proper treatment, it is wise that so much space is devoted to the subject by so eminent an authority.

Chapter XI treats "The Disturbances of Vision Without Apparent Lesion," and is by Elmer G. Starr, M. D. In this chapter is discussed color-blindness and the tests to determine its presence, as well as the various forms of amblyopia.

Chapter XIII, "The Eye in its Relation to General Diseases," by C. F. Clark, M. D., is very important alike to the specialist and the general practitioner. Doctor Clark has handled his subject in a masterly fashion, taking up anemia, lukemia, rhachitis, Addison's disease, diabetes, exophthalmic goitre, diseases of the digestive system, respiratory tract, circulatory system, urinary organs and sexual organs. He has also included poisons and infectious diseases, diseases of the skin, diseases of the brain and spinal cord, and other affections. The reviewer does not know of any other book upon the eye (excepting that by Kneis, which is entirely devoted to the subject), where one can find as much upon this subject as is found in this chapter.

Chapter XIV, "General Preparations for Operations Upon the Eye," by Clarence A. Veasey, A. M., M. D., deals with a very important subject which has been well handled by its author, who goes into sufficient detail to enable anyone to thoroughly understand what should be done in the preparation for operations upon the eye. He includes in his chapter anesthesia, preparation of the patient, of the surgeon and his assistants, of instruments, sutures, etc., the position of the patient and operator, illumination, time of performance, and after-treatment. Another chapter, which shows Doctor Posey's sense in avoiding the customs of the tereotyped text-books upon the eye, is Chapter XV, which every oculist will be glad to read and have for reference. Its subject is "The Technique of the Bacteriological and Pathological Examinations of the Eye." In this chapter the doctor describes the preparation of macroscopic and microscopic specimens, including preservation in glycerine jelly, paraffin embedding, staining methods, etc.

While 685 pages have been devoted to the eye, there are 510 devoted to the ear, nose and throat, with the following subjects: Chapter XVI, "The Histological Pathology of Diseases of the Nose and Throat," by J. L. Goodale, M. D,; Chapter XVII, "Methods of Examination; Instruments and Apparatus and Their Use," by J. E. Newcomb, M. D.; Chapter XVIII, "Inflammatory Diseases of the Upper Air Passages; Hay Fever, Rhinorrhea, Asthma, Influenza," by Charles W. Richardson, M. D.; Chapter XIX, "Diphtheria of the Nose and Throat; Intubation, Syphilis, Tuberculosis, Lupus and Leprosy of Nose and Throat; Chronic Laryngeal Stenosis; Foreign Bodies in Nose and Throat; Rhinoliths," by Wm. Kelley Simpson, M. D.; Chapter XX, "Neoplasms of the Nose and Larynx; the Local, Medicinal and Surgical Treatment of the Larynx," nold Alderton, M. D.; Chapter XXVIII, Diseases of the Accessory Sinuses," by St. Clair Thomas, M. D., M. R. C. P., Lond., F. R. C. S., Eng.; Chapter XXII, "Diseases of the Oropharynx and Nasopharynx," by H. S. Birkett, M. D.; Chapter XXIII, "Neuroses of the Nose and Throat," by Emil Mayer, M. D.; Chapter XXIV, "External Deformities of the Nose; Cleft Palate," by F. E. Hopkins, M. D.; Chapter XXV, "Examination of the Ear; Diseases of the External Ear; Diseases of the External Auditory Meatus; Otomycosis; Foreign Bodies; Wounds of the Membrana Tympani," by F. E. Hopkins, M. D.; Chapter XXVI, "Diseases of the Internal Ear and Auditory Nerve; Deaf Mutism," by E. A. Crockett, M. D.; Chapter XXVII, "Purulent Inflammation of the Middle Ear," by Henry Arnold Alderton, M. D.; Chapter XXVIII,, "Chronic Non-Suppurative Middle-Ear Diseases," by Arthur H. Cheatle, F. R. C. S., Eng.

The subjects are well discussed, and the most recent theories and methods of treatment are incorporated. In that portion devoted to the ear very little space is wasted upon the subjects with which the general practitioner and even the specialist have little to do, leaving more room for the discussion of those important diseases which may cause death or deafness, particularly purulent inflammation of the middle ear. The editor has shown great wisdom in leaving out a great deal pertaining to diseases of the internal ear and those affections for which little can be done, even after the diagnosis has been made.

There is, of course, very little space devoted to the complications of mastoid abscesses, but all that the general practitioner might desire to read.

The writer feels that the book deserves a more thorough review, although he has occupied more space than is customary. It is a book which every specialist should own, because he will find in it much that cannot be found in any other work of the kind; and *the* book that the general practitioner should purchase, for it is especially adapted to his needs, is strictly up to date, and because he can purchase no single book which will meet his wants as thoroughly as will this work.

Frank C. Todd.

The Practical Medicine Series of Year Books—Vol. II. General Surgery Edited by John B. Murphy, M. D. Professor of Surgery, Northwestern University Medical School. Price $2.00. Chicago: The Year Book Publishers.

This volume is somewhat larger than the previous ones in the series. There has been great demand for books of this sort, especially among the busy practitioners who wish to keep pace with the rapid advancement in this branch of medical science. It is of especial value to the general practitioner, because it obviates the necessity of reviewing the original papers, in that it publishes an abstract of sufficient length to form a working basis.

All of the practical subjects treated during the past year have been covered. It has marked the achievements in many of the newer fields of surgery. Especially is this noticeable in surgery of the pancreas, kidney, and the vascular and nervous systems. Some of the newer principles governing the treatment of appendicitis, cholelithiasis, prostatic hypertrophy, cerebral apoplexy and gastro-intestinal lesions, are quite clearly set forth.

This volume emphasizes the relation of clinical symptoms and pathological conditions. The endeavor on the part of a great many pathologists to demonstrate etiology of cancer, is well considered; also the values of the more recent forms of treatment. Operative technique with the newer inventions and discoveries is quite fully discussed.

The volume emphasizes the relation of clinical suggestions, bringing the subject of surgery, with its changes, modifications and advancement, up to date, making the work of inestimable value to all practitioners.

In this volume appear the names of quite a number of Northwestern surgeons who have been given credit for work along special lines, in operative technique, special operations, etc. The Northwestern surgeons mentioned are as follows: A. W. Abbott, of Minneapolis, "Intestinal Fistulæ"; A. E. Benjamin, of Minneapolis, "New Operation for Nephropexy" and "A New Suture-Holder"; J. H. Dunn, of Minneapolis, "Treatment of mitted, the Board will take into consideration, Empyema"; W. L. Grant, of Grand Forks, N. D., Anomalous Position of Cecum and Colon"; Dr. C. H. Mayo, of Rochester, "Prostatic Operation"; Dr. W. J. Mayo, of Rochester, "Carcinoma of Cecum," "Problems in Surgery of Stomach," "Surgical Significance of Jaundice," and "Operations on the Gall-Bladder"; Dr. J. E. Moore, of Minneapolis, "Open Treatment of Dislocated Clavicle."

A. E. Benjamin.

BOOK ANNOUNCEMENT

Mr. O. D. Burton has assumed the management of D. Appleton & Co.'s medical department in Minnesota, and will soon call on the physicians of the state. We think without exception D. Appleton & Co. are publishing the highest grade of medical books on the whole that come from the American press. A book bearing their imprint is almost sure to be or to become a standard; and in this day when power-presses are turning out books so rapidly that no one can keep track of them, it is fortunate to have so high a guarantee of merit as this firm's imprint furnishes.

GOOD READING

Prof. John Uri Lloyd's famous satires, the first of which, "The Mother of Sam Hill's Wife's Sister," was published in the September Criterion (1901), are resumed in the January number with the fourth paper of the series, "Sam Hill, Sheriff of Knowlton, Kaintuck," and purports to be related by "Chinnie Bill Smith," the famous story teller of "Stringtown On The Pike." These satires, written exclusively for the Criterion, will be illustrated by Martin Justice, whose character studies are second to none in the magazine field. Prof. Lloyd's inimitable style and daring, yet kindly humor, will be a rare treat to Criterion readers. A deeper meaning will be read between the lines of these unusual papers by thoughtful minds. The next paper, "Why A Kentuckian Stands With His Back to the Stove, the Testing of Milinda," by Sam Hill, will appear in the March Criterion and the remaining stories during the year 1903.

NEWS ITEMS

NORTHWESTERN NEWS.

Dr. H. L. Saylor, of Garretson, S. D., has located at Coggswell, N. D.

Dr. W. E. Wanner, of Wimbleton, N. D., has taken a post-graduate course at Rush.

Dr. Henry Grundy, of Thief River Falls, Minn., has been appointed coroner of Red Lake County.

Dr. J. W. Bell, of Minneapolis, has been called to Tucson, Arizona, where he will remain a week or ten days.

Dr. Frank C. Davis, who left Minneapolis last summer to study in Europe, has located in Des Moines, Iowa.

Dr. Frederick Huxley, of Faribault, Minn., was married to Miss Ida Daniels, of Minneapolis, last month.

Dr. O. E. Giere, of Madison, has been appointed a member of the Minnesota State Board of Medical Examiners.

Dr. O. C. Tarbox of Princeton, Minn., is home from a month's trip in New York, where he took a special course at the Vanderbilt Clinic.

Dr. George E. Sherwood, of Kimball, Minn., has been appointed by the state board of health a special inspector on smallpox in the state.

Dr. T. Bratrud, of Warren, Minn., started on his European trip Jan. 15. He will be absent a year, spending most of his time in Vienna.

Dr. J. H. Rindlaub and Miss Minnie Douglas, of Fargo, N. D., were married last month. Dr. Rindlaub and wife will go to Europe for a trip.

Dr. H. S. Plummer, of Rochester, Minn., has gone East for a month, and will visit the hospitals of Philadelphia, Baltimore, Washington, etc.

Dr. A. Lind, of Minneapolis, has been appointed lecturer in mechanotherapy in the State University, the position hitherto occupied by Dr. Haldor Sneve, of St. Paul.

South Dakota has become tired of the army of quack doctors now in the state, and the legislature will no doubt pass a law before the end of the session that will give some of these men a tired feeling.

The West Central Minnesota Medical Society held its first regular meeting at Morris last month. Dr. Christianson of Starbuck, Dr. Gibbon of Lowry, Dr. Caine of Morris, and Dr. Bolsta of Ortonville read papers, and Dr. Hulburd of Morris presented a case.

The Upper Mississippi Medical Society met at Brainerd last month. The following officers were elected for the year: President, Dr. Walter Courtney, Brainerd; vice-president, Dr. D. McKinnon, Wadena; treasurer, Dr. J. G. Millspaugh, Little Falls; secretary, Dr. J. A. Flabes, Brainerd.

The Freeborn County Medical Society was organized last month at Albert Lea, and the following officers were elected: President, Dr. A. C. Wedge, Albert Lea; vice-president, Dr. W. L. Pamer, Glenville; secretary, Dr. H. H. Wilcox, Albert Lea; treasurer, Dr. J. P. Von Berg, Albert Lea.

The names of the following Northwestern physicians appear upon the program of the Western Ophthalmologic and Oto-Laryngologic Association, which meets in Indianapolis, April 9-11: Dr. J. A. Donovan, Butte, Montana; Dr. Hamilton Stillson, Seattle, Wash., and Dr. J. E. Schadle, St. Paul.

Dr. L. C. Cowles, of Alden, Minn., died last month at the age of 58. Dr. Cowles studied medicine with his father, took a college course at Ann Arbor, graduated in medicine from the Northwestern Medical School of Chicago, and then studied at Bellevue. He had practiced over ten years at Alden.

The State Board of Medical Examiners of North Dakota licensed the following doctors at their January examination: J. Tyvorid, Milton; George Dahlquist, Willow City; M. A. Lee, Edmore; J. S. Hamilton, Rolla; W. H. Bates, Grand Forks; G. W. Brooks, Hannah; F. S. Pryse, Dawson; R. T. McLauchlin, McHenry.

The Freeborn County physicians have raised their wages, but the new fee-bill is very modest. It is as follows: Day visits, $1.50; night visits, $2.00; visits to patients suffering from infectious diseases, such as diphtheria, scarlet fever and smallpox, $2.00; consultations, $5.00. Could there be a more modest fee-bill than this?

Nineteen candidates for licenses to practice in Minnesota took the State Board examinations last month, and only ten passed. The following obtained licenses: C. W. Bice, Ruthton; S. S. Blacklock, Hibbing; N. E. Belt, Redwood Falls; A. T. Caine, Anoka; R. A. Cairns, River Falls; B. J. Dvorsky, Montgomery; A. D. Hard, Worthington; C. L. Loffler, Le Mars, Iowa; R. W. Patterson, Eveleth; Mabel S. Ulrich, Minneapolis.

The Olmsted County Medical Society held its annual meeting in Rochester last month, and reorganized on the lines required by the A. M. A. The following were elected officers for the year: President, Dr. A. F. Kilbourne; first vice-president, Dr. C. L. Chappelle; second vice-president, Dr. C. E. Fawcett; secretary and treasurer, Dr. H. Speier. Dr. Witherstine, who is a state senator, was appointed a committee to report to the society the salient features of the bill establishing a state sanitorium for consumptives, that the society might act intelligently upon the subject.

The 17th annual meeting of the St. Louis County Medical Society was held at the Spalding Hotel, Duluth, Thursday, Jan. 8, 1903. The meeting was preceded by a sumptuous banquet, thirty-two sitting down. The election of officers resulted as follows: President, Dr. J. M. Robinson; first vice-president, Dr. J. D. Titcomb; second vice-president, Dr. D. D. Murray; secretary, Dr. Fred J. Patton; treasurer, Dr. C. E. Luen; board of censors, Dr. A. C. Taylor, chairman, Dr. J. M. Tufte, Dr. R. Graham. A reorganization of the society was effected whereby all members are members of the state society, and taking in physicians in good standing in Carlton, Lake, Itasca, and Cook counties. Fifteen applications for membership were received. Meeting adjourned.

FOR SALE

A physician in a flourishing South Dakota village of 2,000 inhabitants is obliged to give up practice on account of poor health The practice is offered to anyone who will purchase this doctor's office furniture for $200, the actual cost. Address A, care Northwestern Lancet, Minneapolis.

Northwestern Lancet

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THE EARLY CLINICAL MANIFESTATIONS OF PULMONARY TUBERCULOSIS*

By J. W. Bell, M. D.

Professor of Physical Diagnosis and Clinical Medicine, University of Minnesota

MINNEAPOLIS

Pulmonary tuberculosis is emphatically a disease of all times, all countries, and all races. No climate, no latitude, no occupation, no combination of favoring circumstances affords perfect immunity. Remorseless in its course, it invades alike the homes of the rich where every comfort abounds, and the abodes of the poor where the misery of a hopeless disease is rendered more miserable by the pangs of poverty and neglect. It is estimated that 150,000 die annually in the United States from tuberculosis, 2,000 of this number being citizens of this commonwealth. In spite of this frightful mortality, we know that pulmonary tuberculosis in its incipiency is the most curable of all chronic diseases, and that cures are attained in exact proportion to early diagnosis. The present high mortality is largely due to two causes: 1. Procrastination on the part of patients in seeking medical advice. 2. Neglect on the part of medical men to detect the early manifestations of the disease.

I desire in this brief paper to present the more important early clinical manifestations of this disease as they have manifested themselves to me at the bedside.

The first duty of the physician is to secure an accurate and complete history of the case. The family history should be carefully investigated, not that tuberculosis is directly inherited, but because the pre-disposition, consisting of vulnerable tissue and faulty chest-formation, frequently is inherited. Investigate the personal history as to age, occupations, habits, etc. Give due consideration to previous illnesses, such as pleurisy, especially if accompanied by effusion suggesting its tuberculous origin. Even more suggestive is the history of anal fistula or ischiorectal abscess, healed or unhealed. Keep constantly in mind the fact that measles, pertussis, typhoid fever, influenza, frequent parturition and lactation, indeed any disease which impairs nutrition and lowers the patient's resistance favors the development of pulmonary tuberculosis.

Clinically, tuberculous patients may be divided into three groups or classes during the incipient stage: First, a class presenting the symptoms of causeless dyspepsia, gradual loss of flesh, inability to bear exertion, accelerated pulse, slight afternoon rise of temperature, pale or sallow skin, slight cough; later, positive physical signs and microscopical evidence of infection. Second, a class consisting largely of young women, presenting, at first, symptoms of slight but progressive anemia, loss of flesh and strength, breathlessness on slight exertion, slight elevation of temperature, pulse small, increased in frequency and the arterial tension higher than in cases of primary anemia of the same grade; later, cough, free expectoration, sleep sweats, and all the classical symptoms of pulmonary tuberculosis. Third, a not inconsiderable class where the first warning is a hemorrhage or a series of slight hemorrhages occurring without provocation in an individual apparently in perfect health, followed, in a large percentage of cases, by an increased pulse-rate, considerable elevation of temperature, and all the other evidences of tuberculous infection.

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*Read before the Hennepin County Medical Society, January 5, 1903.

In the first class the early symptoms point to the digestive system as the primary source of disease, but on more careful investigation we find the gastric symptoms secondary to a tuberculous infection. In the second class anemia is the one prominent early clinical feature, all the early symptoms pointing to the anemia as the primary disease; however, this delusion, if not corrected by a thorough painstaking examination of the chest, is soon dispelled by the appearance of all the classical symptoms of pulmonary tuberculosis. The third or Hemorrhagic class causes less difficulty in the direction of diagnosis and in my experience responds best to treatment.

Before considering the physical signs, I desire to call attention to a few of the very early signs of tuberculous infection. One of the earliest, in my experience, is the dry, harsh, lusterless condition of the hair,—an early sign which I have watched for years with increasing confidence in its diagnostic significance, yet one which I have never seen mentioned in our literature. The early presence of continuous and marked dilatation of the pupils, occasionally more pronounced in one eye, due to the irritation of the sympathetic, is also a frequent early sign. In many patients transverse grooves and ridges appear on the thumb nails at an early period after infection. Lastly, the causeless general depression of health, indicated by loss of strength and flesh so suggestive of initial tuberculous infection. The general examination of the tuberculous suspect should include a careful investigation of the nose, throat, chest, and abdomen, and especially the stomach, as to its position, size, and condition of motility and secretion. The physical examination of the chest should be conducted under the most favorable circumstances,—the room should be warm, light, and absolutely quiet. In the examination of males the chest should be bare; in the case of females, it should be covered by a thin, soft, noiseless garment, preferably of cheese cloth, permitting direct access to any and all portions of the chest as required. The day of examining through coats, shirts, and corsets is happily past. It is not sufficient to palpate, percuss, or auscultate one or two places over the anterior portion of the chest, but every inch of accessible lung tissue should be covered.

In my experience the early physical signs of pulmonary tuberculosis have manifested themselves over the following lung areas in the order of frequency named: Right apex, anteriorly; right apex, posteriorly; left apex, anteriorly; summit of lower lobe of right lung, posteriorly; upper right infraclavicular region, midclavicular line; upper left infraclavicular region, midclavicular line; summit of lower lobe of left lung, posteriorly.

Inspection.—The general appearance of the patient as evidenced by his general nutrition, color of skin, facial expression, attitude and type of chest, means much to the experienced clinician, and often tips the balance in favor of a correct diagnosis. The condition of the circulatory system should be ascertained before investigating the respiratory system. The heart and vessels are often congenitally small and deficient. The heart sounds are sharper and more valvular in character with early accentuation of the pulmonary second. The irritable heart and characteristic pulse are valuable early signs. The respiratory movements should be carefully investigated as to frequency and character; slight lagging on the affected side occurs early and is especially noticeable in the female, owing to the presence of superior costal type of breathing. Expansion becomes more and more diminished over the affected side, and more distantly apparent owing to increased functional activity of the other lung as the disease progresses.

Thermometry.—Thermometry affords valuable information if systematically carried out. Like the accelerated, irritable pulse, increased temperature is an early symptom, often preceding, for a considerable time, cough and expectoration of the presence of tubercle-bacilli. The temperature should be taken at least four times daily for a period of several days.

Palpation.—Palpation confirms inspection as to finding, and enables us to definitely locate areas of increased fremitus, providing we bear in mind the slight normal increase of fremation over upper portion of right lung.

Percussion.—This should be carefully and systematically performed during quiet breathing and at the end of expiration, varying the force and direction of the percussion stroke over the entire accessible lung area. The existence, normally, of slightly increased pitch of the percussion note over the upper portion of the right lung should be borne in mind, in order to avoid error. Owing to the small size and often deep location of the tuberculous areas, relaxation of the surrounding lung-tissue results, which gives rise, first, not to dullness, but slightly tympanitic note; and later, as the consolidation increases in degree and extent, tympany is replaced by dullness.

Auscultation.—Auscultation is the court of highest appeal, since it furnishes us the earliest, as well as the most important and valuable, evidence on which to base a diagnosis. It should include a careful investigation of the breath, voice, cough, and adventitious sounds, bearing in mind that the respiratory murmur in health is slightly harsher, higher in pitch, and of great intensity on the right side, especially over the upper portion of lung. When we recall the pathology of incipient tuberculosis, the meagerness of the early auscultatory signs is readily understood. A few scattered tubercles, or a small nest of them, produce little more than a slight circumscribed hyperemia with encroachment on the air-conducting tubes, consequently the auscultatory signs will be slight or marked according to the number and location of the invading tubercles.

The earliest pathologic change in the respiratory sounds due to tuberculous deposit, will be found to be diminished intensity or enfeeblement of breath sounds, or slightly increased harshness, noticeable especially during the prolonged and higher pitched expiration. Interrupted or cog-wheel respiration, limited more especially to inspiration, has but little diagnostic significance, unless supported by other evidence of disease. Accompanying the slight changes in the breath sounds, on requesting the patient to breathe deeply or to cough, a few feeble, distant, subcrepitant râles are often heard. In some cases the first adventitious sound will be an isolated coarse crepitant râle near the summit of the lung, or a few fine, dry crepitant râles heard at the end of a deep inspiration. These early adventitious sounds pointing to a localized bronchitis of terminal tubes, if persistent, point definitely to a tuberculous deposit. Over the affected area the voice sounds early become increased in intensity, later raised in pitch. In the majority of cases the lesion is confined to the apex of one lung, but no part of the lung is exempt, hence the whole of both lungs should be examined.

Having completed the physical examination of the chest, the sputum should be carefully examined,—not one slide but several. In case of failure to find bacilli, repeated examination should be made from time to time. In case the physical signs are slight and the microscopical findings negative, the patient may, with perfect safety, be placed on four-grain doses of iodide of potassium, four times daily for two or three days, in order to intensify the adventitious sounds or râles by increasing the amount of bronchial secretion, thereby enabling us to determine the exact location of the affected area, as well as to secure a larger amount of sputum for microscopical examination. In the few cases in which I have used the iodide I have noticed no unfavorable symptoms, hence I prefer it, in suitable cases, to the use of tuberculin, which I think more often required to detect other more obscure forms of tuberculosis. I have seldom found it necessary to use tuberculin in demonstrating the existence of pulmonary tuberculosis; not that I consider it unreliable,—on the contrary, I believe it a valuable test,—but I consider it not wholly free from danger. While I have had no experience with the *x*-ray in the early diagnosis of pulmonary tuberculosis, it is now after due probation justly recognized as a valuable diagnostic aid.

In conclusion, permit me to say that it is not so much new methods, signs, or symptoms we need, in order to detect the early existence of pulmonary tuberculosis, as it is the ability on our part as clinicians to correctly appreciate the significance of the rational symptoms, to clearly recognize the early physical signs, and properly interpret their meaning and diagnostic value.

GONORRHEA IN THE FEMALE*

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MINNEAPOLIS

I have selected this topic as the subject of my paper, first, because gonorrhea is the most prevalent of all contagious diseases; secondly, because gonorrhea in the female has made more chronic invalids among women than any other cause; thirdly, because the disease is often badly treated; and, fourthly, because the wrong that is done to young women on account of the ignorant or careless advice of the doctor to the young man to get married before he is cured of a gonorrhea, is inestimable. The special habitat of the gonococcus, is the columnar epithelium, hence mucous surfaces lined with columnar epithelium or in which are located glands lined with columnar epithelium are the surfaces most surely attacked by the disease, although the pavement lined epithelial surfaces are not entirely exempt from its ravages.

The parts liable to this specific inflammation are the vulva, the urethra, and the glands connected with these parts. It may extend to the bladder, thence along the ureters, and attack the pelvis of the kidney. It may attack the vagina, although it is most likely to be exempt, and the cervix uteri attacked. From there it extends to the body of the uterus, and thence to the tubes, peritoneum, ovaries, and lymphatics.

The cause of this infection is the gonococcus of Neisser. It is distributed chiefly through the avenue of the "social evil." Its prevalence in the vaginal discharges of prostitutes has been a subject of frequent investigation. Laser of Konigsberg examined a number of prostitutes with the result that the gonococcus was found in the urethra 111 times in 353 cases, in the vagina 7 times in 180 cases, and in the cervical canal 21 times in 67 cases. Out of the 353 patients examined by Laser for gonococci in the urethra four-fifths of the 111 cases that revealed the micro-organism gave no macroscopical evidence of gonorrhea. In 241 cases in which the gonococcus was not found there was more or less inflammation of the mucosa, often times with a suspicious discharge. This would show that the gonococcus may be hid in crypts and follicles of the mucous membrane, thus giving rise to the inflammatory process, but not appearing in the discharges. The few cases in which the gonococcus was found in the vagina show the rarity with which it is attacked.

Afanassiew (Gazette de Gynecologie, No. 167, p. 173) reports the results of bacteriological investigation of the lochia of 24 parturient women. Out of 68 examinations he obtained cultures in nearly all the cases. They were living and culturable notwithstanding daily washing of the canal with carbolized water of two per cent strength. These investigations show strikingly the frequency with which the disease may be found in the female. These organisms are frequently found in apparently non-purulent secretions long after the acute condition has passed. Their virulence, however, is generally greatly reduced often to the degree of having lost their pathogenic properties. This then is the condition of the gonococcus in chronic gonorrhea.

The question as to how the uterus becomes infected has been one which apparently has had two sides, one set of observers believing that the uterus is primarily infected, the other that it is only infected secondarily. Among the latter is Reed, who, in his text-book on gynecology says that "Gonococcus infection of the uterus is simply an upward extension of gonorrhea from the vagina. This rarely occurs spontaneously because of the resistance offered, first, by the mechanical arrangement of the vagina, and next by its secretions and its normal bacteria, notably the acid-secreting bacillus of Doderlein." He claims that extension to the uterus in the majority of cases is the result of mechanical intervention in some form. As pointed out by Rosenwasser, it often results from meddlesome treatment of the disease when limited to the vulva. Some physicians proceed upon the mistaken theory that the vagina is the primary seat of infection of gonorrhea in woman, and begin at once to treat that canal with mistaken vigor. My observation leads me to doubt the conclusions of Reed, that the gonococcus does not attack the cervix spontaneously. The seminal fluid mixed with the gonorrheal secretions of the urethra are discharged at or near the os externum in a position it seems to me to very readily attack a mucous surface that is as susceptible to its action as the mucous membrane of the cervix. Frequently patients will only complain of an increased leucorrheal discharge, and never give any history of having had an inflammation of the vulva or vagina, and on examination a true gonorrhea of the uterus be found. Brose believed that in every case of gonorrhea in women the uterus was infected. Schultze investigated two hundred cases with the result that he disproved the accuracy of this opinion. Schultze further concluded that gonorrhea is infectious only until the gonococci have disappeared from the seretions, whether the latter is vitreous or purulent. He found that when the cervical secretion contains no gonococci there are none in the secretions from the cavity of the uterus.

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The frequency with which gonorrhea is found to be a cause of disease in the female is appalling. Noeggerath, in his paper of 1872, said that 80 per cent of all gynecological cases were due to latent gonorrhea. Sanger from an examination of 1930 cases in hospital and private practice diagnosed gonorrhea in 12 per cent of the cases. This was after the discovery of the gonococcus by Neisser (1897). In 2107 cases the gonococcus was found in 23 per cent by the following observers: Schwartz, Goll, Neisser, Weinrich, Van Schaick and Brose, Schiller, all cases giving a clinical history of gonorrhea.

The relatively small proportion of cases in which the gonococcus is found makes the diagnosis when based entirely upon the microscopical examination very uncertain. It must be remembered that the absence of the gonococcus does not disprove the presence of latent gonorrhea. O. Bodenstein considers the diagnostic points as to chronic gonorrhea to be as follows: History of ophthalmia neonatorium in children of the patient, former ardor urinæo, gonorrhea in the husband, disease of Bartholin's glands, a reddened urethral orifice, erosions of the cervix, involvement of the urethra.

P. Brose and H. Schiller think the clinical course more important than finding gonococci in the secretion from the urethra. They found the gonococcus in only 20 per cent of their chronic catarrhal cases. The signs they consider important are swelling of the urethral meatus, stricture of the urethra, condylomata, inflammation of Bartholin's glands, maculæ gonorrhoicæ of Sanger, tissue defects and scars in the vulva, vaginitis maculosa and granulosa. A great deal of stress has been laid of late on the appearance of the vulva. A reddened and pouting condition of the orifices of Skeñe's glands, with a small amount of secretion which can be squeezed out is a common condition. Condylomata are found in gonorrhea, but they are also found in persons of uncleanly habits, a purplish areola, like a flea-bite, around one or both of the orifices of Bartholin's glands. The maculæ gonorrhoicæ of Sanger are often seen. Stricture of the urethra is by no means as uncommon a condition in the female as was supposed. The use of the cystoscope has shown its presence quite frequently. Chronic endometritis, a catarrhal alternating with a purulent form, is very commonly met with, and pyosalpinx is one of the later sequelæ. Gonococci are found in 20 per cent of these pyosalpinx cases. Gonorrheal cystitis and proctitis are frequently seen in the clinics of many observers.

It is important that a patient about to be examined should be instructed not to use a douche or wipe away the discharge so that the actual condition may be seen by the physician, both as to the amount and the character of the discharge. The best time to make the examination in many of these cases is just after the menstrual period, when apparently the gonococcus has been stimulated into renewed activity, and when it may be found though it could not be found between the menstrual periods. This probably is the explanation of the impression that a man may contract gonorrhea from a woman by having intercourse during the menstrual period.

The fact as to whether there is such a thing as latent gonorrhea has caused considerable discussion. Taylor of New York held that the gonococcus dies and leaves behind it a chronic inflammation. Thorburn of England studied 81 families in his practice in which there had been 33 per cent of gonorrhea in the husband previous to marriage. Taking all the cases of abortion, sterility, uterine and pelvic inflammations, and living births, he found that the infected showed no difference from the non-infected, and in the pelvic inflammatory cases there was a slight preponderance on the side of those who had not had previous gonorrheal infection. From a clinical point of view every physician has had patients whom he has treated for gonorrhea who afterward married and had children, their wives and children remaining healthy, so that in some cases at least gonorrhea must be absolutely cured. On the other hand Wertheim, Fenger, and Haberda by inoculation experiments found that a chronic gonorrhea can cause an acute gonorrhea in another person. Wertheim thinks that the reason that it is often difficult to identify the gonococcus is because only the young cocci take the stain and the old ones do not. Toulin, in 1894, noted a degenerated type of gonococcus, which is unrecognizable by ordinary methods of examination. It was seen in cultures of gonococci which were from seven to fifty-one days old and consisted of a granular and amorphous mass. By transplantation he got characteristic colonies even with a culture 51 days old. Experiments demonstrated that gonococci may be present in gonorrheal threads, and yet may not be recognizable in cover-glass preparations, but only in cultures. Haberda thought with Wertheim that the urethra becomes tolerant to the gonococcus, but that the gonococcus does not lose its virulence when transplanted to a favorable culture-medium.

J. Judassohn of Berne announces the following conclusions as a result of his study of this question: (1) A mucous membrane affected with chronic gonorrhea may react by exaggeration of the inflammation when there is a multiplication of the gonococci which it harbors or when new gonococci are introduced. (2) A mucous membrane affected with chronic gonorrhea may no longer react in case of multiplication of its own cocci, but may respond by a recrudescence of the inflammation upon the introduction of new cocci. (3) A mucous membrane affected with chronic gonorrhea may enjoy a sort of immunity from acute gonorrhea. He says, further, that we know nothing of the immunity of the organism on account of the existence of gonorrhea. Even a continued chronic gonorrhea in one organ does not prevent an acute inflammatory attack in another, for example acute epididymitis in chronic urethral gonorrhea.

The experiments of Wertheim, if verified by other observers, will have an important bearing on the inoculability of gonorrhea. He found a direct experiment from a pure culture of gonococcus from a gleety discharge of two years standing gave the following results: (1) Attempted reinfection of the original urethra with this culture was always a failure; (2) The culture when transplanted to a coccus free urethra produced typical acute gonorrhea; (3) Infection from this back again to the original urethra gave a fresh gonorrhea which, after a typical acute course of five or six weeks, again subsided into a chronic gleet. This, then, explains how an apparently healthy subject of chronic gonorrhea may infect his hitherto unaffected wife, and she, in turn, may reinfect him,that is,the gonococcus, by passing through the new culture-medium of the wife, again becomes virulent to the husband.

The question of when a man should marry after an attack of gonorrhea is one that resolves itself into, when is a man cured of gonorrhea? This is a question that should not be passed over lightly. Paul Thorndike of Boston, in an article entitled "When is a gonorrhea cured?" gives as good advice upon this subject as can be given. He says: "A patient is cured of an acute gonorrhea after all discharge has ceased, both that visible at the meatus and that showing as shreds in the urine, and should remain so free for a period of months, during which time the patient has lived his usual life, eating, drinking, and exercising as he will. In the chronic cases, the cause of the discharge, whether it be a stricture already formed, granulating patches, areas untreated and uncured in the posterior urethra, involvement of the seminal vesicles, or any one or more of the possible causes, must be sought for by one competent to so search, and when found must be treated and cured. This can generally be done, but often takes a number of months for its accomplishment. Having been accomplished the patient must pass through a period of probation similar to the one mentioned above. There remain a few cases where the most rigid examination of the whole urethra, prostrate and seminal vesicles fails to reveal any lesion to account for the persistent drop or shred. In these cases it is my belief that efforts should be made to re-establish an acute inflammation by judicious local irritation with injections, and then a careful search for gonococci should be made in the discharge thus re-established. Should none be found after a number of examinations, the artificially produced inflammation is allowed to subside, which it should do in two or three days, and the remaining shred or drop be repeatedly and carefully examined for gonococci, preferably by another physician than yourself. If they are not found and the discharge is mucoid in character, the patient must probably be allowed to marry, but must still be told of the risk he runs." Personally I believe the advice given by Dr. Thorndike is the proper advice to follow. I also believe these cases should all be passed upon by the expert, for he is the man thoroughly equipped with the various appliances and skill necessary to examine and decide on a question that means so much to others. The gynecologist is constantly seeing the baneful influences of an uncured gonorrhea in the husband.

In a brief discussion of the treatment I want to confine myself to the treatment of gonorrhea of the uterus and tubes, except to say that when a patient is suffering from a gonorrhea of the external genitalia the physician should be careful not, by ordering douches or making examinations, to carry infection to the uterus, but should treat the external parts alone. When gonorrhea attacks the cervix it may still be confined to that portion of the uterus. Caution should be used that the body of the uterus be not infected by the passing of the sound or any other instrument into the uterus. The application of protargol to the cervix and external os in a five to ten per cent solution is probably the best treatment that can be used. This may be applied every other day after which a tampon of wool or cotton may be saturated with a 10 per cent solution of ichthyol in glycerine or the use of ichtholdine, a preparation of ichthyol, iodine, and hydrastin, in the same manner, the tampon to remain in place for 24 hours, when it should be removed, and a hot bichloride douche used of the strength of one to three thousand. When the body of the uterus becomes infected the problem becomes a still more difficult one because now in the majority of cases the tubes will be attacked. The object of the treatment is the destruction of the gonococci. In order to do this it is necessary, it is believed, to destroy the mucous membrane of the uterus. To do this various methods have been devised. The passing of superheated steam through the uterus and the use of boiling water are two methods I mention only to condemn. Dr. Adolf Savor of Vienna, Austria, says the treatment of the acute stage is symptomatic. Every local measure must be advoided, and strict rest in bed required. After the acute symptoms have subsided, dilate the cervix, and destroy the endometrium by a 50 per cent alcohol carbolic solution or a 20 per cent chloride of zinc solution. This it seems to me is also a little too vigorous, and I believe the same result may be obtained by a less extreme measure. That which I prefer as treatment is the dilatation of the cervix, and the application to the endometrium of a 5 to 10 per cent protargol solution, then to saturate a piece of sterile gauze with a 5 per cent protargol solution, with which the uterine cavity is then packed. This is allowed to remain for 48 hours, when it is removed and after 48 hours again applied. This may be repeated for several times or until the evidences show a cure. In the chronic form, if the tubes are not involved, the uterus should be carefully curetted, after which the protargol solution should be applied in the manner just described. In the treatment of an acute salpingitis, the result of gonorrhea, the patient must be put to bed, given saline laxatives, and morphine for the pain. She should be given hot-water douches for a prolonged period of time, repeated two or three times a day; tampons saturated with iodide of potassium solution or with ichthyol used every other day allowed to remain from 12 to 24 hours; and ice applied over the lower part of the abdomen. When the acute stage has passed it then becomes surgical, and the only cure is the removal of the infected tube, as the patient will be liable to acute exacerbations from time to time until the tubes are removed even though not much pus be present.

UNEQUALIZED SEXUAL SENSE AND DEVELOPMENT THE GREAT CAUSE OF DOMESTIC INFELICITY AND NERVOUSNESS IN WOMEN

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MINNEAPOLIS

By sexual apathy is meant a condition of the individual (especially woman), in which there is a want of sexuality, or the sexual feeling. I am aware that this is a delicate subject, and were it not for the fact that upon this, more than upon all other things combined, depends the happiness of the marital state, I would shrink from discussing it.

Society demands that some things be inferred and not spoken of, and thus it is that people generally, and especially women, who are otherwise intelligent and educated, remain most woefully ignorant regarding their sexual functions and relations. There is no way in which a young lady can acquire a wholesome and rational knowledge upon this most important subject, for she is taught early in her career that to even think of these things is not only improper but immoral. In medical schools and medical literature even, the subject is scarcely alluded to, and when referred to is couched in a technical language which requires years of preparation to understand. It seems almost as if deception in this matter were a part of creation's intent, for the female is called upon for her own protection to disguise her feelings, and dissimulate and deceive regarding her true inwardness.

It is universally conceded by all intelligent people that there can be no happiness in domestic life without "love." The strongest attachment and greatest devotion known to human beings is, without doubt, the bond of affection between mature men and women, which has its origin and foundation in "sexual selection," and culminates in that blissful and divinely ordained mental state commonly called love.

A human being's normal condition is consistent only with a "sound mind in a sound body," and a state of health and happiness can exist only when all of the bodily organs perform their several functions harmoniously. Men and women are primarily flesh and blood, and any offense, either of commission or omission, however laudable in motive, against their animal nature, is always followed by disaster. In this life the mind and body are indissolubly linked together; and as the mind so greatly and wonderfully governs the body, so also can there be no mental state without a physical basis. In other words, every bodily want or desire creates a mental longing, the judicious gratification of which cannot but be conducive to the greatest good.

In obedience to divine injunction, men and women marry, or should at least, for the sole purpose of assuming the sexual relation, and if this be as nature intended it should, the greatest earthly pleasure is experienced by both parties. In all save polygamous communities the sexual competence of both parties to the marriage contract is essentially requisite for the maintenance of family life and social conventions. If apathy, indifference, aversion, disgust, or incompetence is persistently manifested for sexual congress, nothing but discord and disastrous results can follow. Every medical man, sociologist, or student of human nature knows there is nothing in this world nearly so conducive to ecstacy, mental tranquility, personal amiability, and family unity as a properly performed sexual act; while at the same time there is nothing quite so provocative of irritability, discord, dissatisfaction and disgust, as improper, unwilling, and inharmonious sexual congress.

Inexorable nature did not implant intense procreative desires without providing proper means of gratification, and every sensible, thinking person knows what must result from an attempt to thwart nature's laws. In the whole animal kingdom the female will not permit the approach of the male unless she be in the proper mood and physical condition, and it is well known that the desire is always antedated and accompanied by the bodily preparation. In the human species it is manifestly worse than brutal to exact submission of a woman who is physically unprepared and, consequently, without mental desire; and to insist upon repeated, unwilling, unparticipated conjugal embraces, is to invite not only indifference but disgust for the act and repugnance for the actor. Even a small degree of domestic felicity must, by all social and natural laws, be inconsistent with such conditions, and to look for family peace and unity with circumstances like these, is to seek the unnatural and impossible. Marriage implies a desire for the exercise of the sexual function, with its concomitant pleasures and results, and if these be but partially, or not at all, realized, its primary object is defeated and it must be a failure. How many unhappy and disappointed married people there are living together it is, of course, impossible to state, but their number is legion, and divorces are alarmingly on the increase. A public writer recently said that only about twenty per cent of marriages are happy ones, for only one woman in five ever experiences the "grand passion," and is really and truly in love with her husband. This estimate is probably not altogether conservative, but, be that as it may, certainly a very large proportion does not experience to its full extent the ecstacy and intensity of feeling that nature intended woman should.

That a woman may fulfill her physiological functions without any subjective sexual satisfaction has long been known, and it should be remembered that in reproduction, the female is a purely passive agent, and neither sexual desire nor sexual orgasm is necessary to fecundity, and the absence of either or both is no bar to the procreation of children. Notwithstanding this fact, however, it is clearly apparent to all observers that every living thing, from the lowest form of life to the highest, is endowed with and inherently possesses three fundamental functions or characteristics, viz.: Motion, nutrition, and reproduction, the exercise of which it intuitively and incessantly seeks, and the pursuit of which is accompanied by the greatest satisfaction. This being true, and no one will attempt a denial, human beings cannot be normal without motion, nor can they long exist without nutrition, neither can they be happy without a desire to reproduce, or exercise their sexual function, which, it must be admitted, is by far the strongest instinct and craving with which they are endowed. If, now, this sacred passion be absent, perverted, or even diminished, how can the individual be as the Creator intended? Without it the person is unsexed, and every one knows how abhorrent even such a thought is. A pervert is still more disgusting, for that is being unnatural and inhuman; and surely no one desires that state. Diminution may be the result of improper usage, or it may be a state of dormancy, in which the feeling is inherent though not called forth, but subdued. Social conventions demand the subjection and restriction of passions within certain limits, and, very laudably, education is directed toward that end, but when carried to extremes and attempts at extermination are made it becomes pernicious.

The successful accomplishment of the procreative act, with its attendant manifestations and beneficial results, is possible only when a mutuality of purpose is evinced by both parties, with a lover-like condition prevailing in which there are "two souls with but a single thought." A state of tolerance or willingness is not sufficient, but a point must be reached in which there is a condition of mutual eagerness existing, which is absolutely indispensable to the attainment of sexual orgasm for both. In the male attempts even are futile without bodily preparation, together with mental volition, while it is possible for the female to preserve to a great extent physical passivity and mental indifference, and still have conception occur. This, however, is not in accord with nature's design, and not only savors of prostitution, but engenders abnormal womanhood.

Physiologically copulation is both voluntary and involuntary in either sex. The first or preliminary stage is wholly and completely under control of the will, and accompanied by a mutual interchange of gentle caresses, (the male usually being the aggressor and taking the initiative.)

These gradually merge into suggestive acts that are reciprocal and progressive, and which elicit delightful anticipatory subjective sensations. (During this time the minds and bodies of both participants are prepared for the succeeding stage.) With gradually increasing simultaneous physical undulations, the nervous sensations are increased and intensified to a height where mental control is no longer possible, and involuntary acts ensue in which every portion of the being seems to take an active part. The subjective sensations accompanying these involuntary actions it is impossible to adequately describe; suffice it to say that there are no feelings akin to them, and nothing known to humankind is comparable therewith. The final stage is one of delightful relaxation and sweet repose, and is followed by a mental attitude that secretly cherishes a sacred memory of the circumstance, entertains the kindliest feelings toward the party, and subsequently seeks a repetition with impatience. It is impossible to separate the act from the actor, for recurrent memory always associates the two, and hence the strongest of human ties are thus securely cemented.

It must now be noted and apparent that the successful accomplishment of this beneficent function, which is so conducive and essential to the well-being of the participants, is possible only with mutual unanimity of purpose, synchronous action, and physical capabilities. If either individual be lacking in any or all of these the desired result cannot be obtained, but the direct opposite follows, and disappointment, chagrin, and disgust ensue, with the attendant long train of disasters. Though the first and second of these above-named essentials are necessary, yet the third (physical capability) is by far the most important, for if this be as nature designed, the former two naturally follow. In other words, if mutual desire and competence be established, gratification will be sought intuitively.

That there is an intimate and close relation between the sexual organs and the mind, there can be no doubt, for the influence of either upon the other is very marked. Hunger is a feeling or state of mind caused by the bodily tissue's cry for nutriment, and referable to the digestive organs because that is nature's avenue of supply; and, if the stomach be in a healthful state and supplied with what is necessary for it to do its work, appetite is immediately appeased and the mental state relieved even before the tissues have actually received nutrition. The human body is an aggregation of organs and tissues composed of cells dependent upon one another for sustenance and presided over by the mind. We have seen that primitive life (cell life) has, besides the functions of motion and nutrition, that of reproduction, consequently this aggregation, when mature and harmonious, manifests itself in sexuality. Just as the digestive system is an avenue for nutrition, so the generative organs act as agents for sexuality, and, therefore, an adult can no more be normal without sexual appetite than healthy without a desire for food. If, now, these several organs are competent to perform the work for which they were provided, a normal, contented, and happy mind follows. The very intimate relation between the sexual organs and the mind insures a ready response by either to the other, and we have seen that, by the wisdom of nature, the sexual act is both voluntary and involuntary; that is, the mind controls or greatly influences the body up to a certain point only, for during the orgasm the physical condition is such that the mind has no longer control or influence over it, and the acts are entirely without mental volition, thus proving that the body dominates the mind and is the greatest factor in matters sexual. This being true, and the sexual organs being the body's agent in this capacity, upon their competence or incompetence depends, more than all else, the individual's mental state; and happiness, and love, as every one knows, is a state of mind.

Recognizing the great importance of the physical condition in the male, and knowing the evils resulting, not only to the individual but to society, any incompetence on his part is termed "sexual debility" or, more vulgarly, "lost manhood," (which, however, is in reality, in most instances, unattained manhood) and every effort is made to rectify it. But how about the female? Until now woman does not seem to have been given a thought in this matter. If want of ability in the man makes him less manly, then lack of competence in woman renders her less womanly, and, practically, this seems to be precisely what obtains. It is utter folly to assume that there can be anything to make the human female womanly beside her sexuality; and how an adult woman can be happy in her sphere without enjoying her birthright and experiencing to their fullest extent the natural delights of womanhood is beyond comprehension. That an alarming proportion of women do not experience sexual desire and sexual orgasm, or either, most of the laity and every doctor is repeatedly given to understand; and that this is the one great cause of infidelity and the lack of love and affection in domestic life, there can be little doubt. Unless a woman can sincerely, truly, and conscientiously say of herself, that she longs for the embrace of her manly husband even as he longs for her, she is not really in love and not capable of making a happy home. The immortal Shakespeare has happily expressed the condition thus:

"Fondling!" she saith, "since I have hemmed thee here,
Within the circuit of this ivory pale
I'll be a park, and thou shalt be my deer;
Feed where thou wilt, on mountain or in dale,
Graze on my lips; and if those hills be dry,
Stray lower, where the pleasant fountains lie."

We have seen how the bodily condition creates the longing and how at times it dominates the mind, and in this life the "body must be fed." If, now, the agents of the feminine body for the performance of this function, namely the sexual organs, are deficient, or by reason of habit or otherwise, are not sufficiently responsive, they can, by proper treatment, be made so.

Practically the two sexes do not start their sexual life and development equally. The anatomical construction of the boy necessitates a handling of his genitalia each time nature calls for the evacuation of his urinary bladder, while for the girl there can be no such occasion. This handling will, sooner or later, some time cause a very marked change in the copulative organ from its usual flaccid condition, and this alteration cannot fail to make a decided impression upon the boy's mind. Education and training in the boy, though it tends to prevent pernicious practices, cannot eradicate thoughts upon sexuality, for the mind cannot help being cognizant of the marked change in the physical state, and so an intimate relation and ready response is established between the two, and thus sexual sense and development is begun comparatively early.

The education and training of the girl in this respect has a different effect. She is repeatedly given to understand most emphatically that to think of her sexual organs, except in relation to the urinary function, is unwholesome, degrading, and vicious, and there being no visible great anatomical change in these organs to forcibly impress her immature mind, she naturally does not think of sexual matters, and when subsequently her mind occasionally reverts to these things she quickly suppresses and banishes such thoughts. Shame and modesty prevent her from discussing the subject with her associates, and good literature upon the matter is inaccessible to her, while any information obtainable is almost sure to be erroneous; and thus she reaches a marriageable age, wholly ignorant or with incorrect ideas upon this most important matter. Any sensations she may have during her courtship are not at all, or at most very reluctantly, associated with her generative organs, for she does not understand her nature, and so, practically, her sexual experience usually begins with marriage, which she approaches with apprehension. We have now, at this period for companions, on the one hand, a man with a highly developed sexual sense of one or two decade's duration, a mind cognizant of sexuality, whose intimate relation with these organs is such that they are greatly influential, acutely sensitive and readily responsive each to the other, but who has little or no knowledge of sexual hygiene; on the other hand, a woman whose previous education and environment precluded a proper understanding of sexuality, and who, by reason of inexperience, is unconscious of the intimate relation between her mental and physical conditions. Her first sexual experience cannot, for anatomical reasons, be altogether agreeable, and subsequent ones depend to a great extent upon her consort. Unfortunately, young husbands are almost as ignorant as their newly-made wives in regard to the physiology of copulation, and lucky indeed is the pair if, during the honeymoon, a proper knowledge (which is born only of experience) is acquired, for upon this very largely depends their future marital happiness. With the conditions as above stated—and they are the usual ones—it is practically impossible to obtain the full physiological effects at first, and if these be not eventually experienced, indifference, disgust, and repugnance follow.

It is necessary that both be physically prepared, and not only that, but the orgasm or involuntary stage must be reached simultaneously in order to have the physiological effects. In the man, who has for years known what sexual excitement is, and who is highly sensitive and responsive, it often requires but a touch, a look, or a thought even for physical preparation, and scarcely more than contact for orgasm; and so, as far as he is concerned, the act is completed before the woman has really been prepared and while her sexual organs are yet comparatively cool, dry, and insensitive. A frequent repetition of this occurrence leads to indifference and disgust, especially on the part of the female, for she derives no pleasurable sensations, and eventually considers herself a martyr, and submits with reluctance and from a sense of wifely duty only. Gradually she withholds her demonstrations of affection, for she has learned that these are but the preliminaries to an act that is distasteful to her, and then the pair believe themselves to be incompatible—and all because the woman's sexual organs are not so acutely sensitive and readily responsive as the man's. Selfish personal pleasure cannot be conducive to happy sexual living, and unless the female acquires a development where she will be physically competent at the moment the male is sexually excited, there can be no physiological copulation. This state may be reached when the husband displays knowledge of sexual matters, gentleness, patience, and unselfishness; but these, unfortunately, are not found combined and sufficiently cultivated in most men.

Since biblical times the masculine portion of humanity at least, has been accustomed to frequent sexual intercourse, and this predisposition has been transmitted from father to son through countless generations; and inasmuch as man has had this habit since the time of recorded history, unless human nature greatly changes—of which there is no hope—he will continue so inclined. If it be conceded that greater sexual equality would be conducive to a higher degree of domestic felicity, then, since it is impractical to change the man, our efforts should be directed toward making the woman his equal sexually.

A desire to limit the size of the family frequently prompts an abrupt termination of the act before the orgasm, or involuntary stage, is reached, thus preventing its physiological consummation, and this "coitus interruptus," instead of developing harmonious action between the mind and the generative organs, provokes discord. The digestive system is perhaps the greatest and most frequent to suffer from disturbed mental conditions, and nervous dyspepsias, and other reflex disturbances frequently arise from this cause.

The ancient Greeks recognized the intimate relations between the sexual organs and the central nervous system, and believed that the varied and numerous vague nervous manifestations peculiar to women were directly attributable to these organs, and hence the name "hysteria" (from the Greek hystero, meaning womb), which we use to-day to designate these affections.

In the male the anatomical changes arising from physical preparation for the copulative act are very marked and conspicuous, at which times the individual finds it almost impossible to divert his mind from matters sexual; but in the female, in whom these changes are also indispensable, there are no externally visible alterations, and so the mind of the girl who has been carefully reared and repeatedly told that thoughts of sexual matters are horrid, immoral and wicked, does not correctly interpret, and eventually there ensues a nervous system without proper equilibrium, and various reflex actions occur, for the central nervous system, though being cognizant of a change, is by reason of inexperience, training, etc., not able to refer it to its proper place. A frequent repetition of this occurrence will, in a few years, produce an unstable nervous system, and we find a so-called "nervous" woman who is very vulnerable, has abnormal sentiments, gloomy forebodings and needless worries, and who is prematurely aged and finds little enjoyment in life because of her mental state. To obviate this condition it is only necessary to restore harmony between the mind and the sexual organs, and render them responsive, one to the other, in accordance with nature's design.

Women with sexual apathy, either comparative or absolute, are the most jealous and exacting of wives, and experience has proven that nervous, irritable, cross, fault-finding and dissatisfied wives are transformed into buoyant, cheerful, amiable, contented and companionable helpmeets by proper treatment directed to the cause of the trouble—the sexual organs.

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DR. RINGNELL'S REAPPOINTMENT

The State Board of Medical Examiners has reached a point in its history where much may be expected of it, and this because of the work it has done during the past two or three years. It has always been handicapped by laws of uncertain meaning and by lack of funds, but the latter trouble has been largely removed, and with this removal the uncertainty of the laws is not so great an obstacle in its way.

It is gratifying that Gov. Van Sant has not seen fit to make a lot of new appointments to the board, which, under any circumstances, might cripple it; and it is particularly gratifying that he has reappointed Dr. C. J. Ringnell, who has served the board so faithfully and efficiently as secretary. There were a large number of applicants for the position, as it was understood that Dr. Ringnell did not wish to remain on the board, but those who knew of the good work he has done, and his value to the board, urgently requested the governor to reappoint him, and Gov. Van Sant cheerfully did so.

AN EPIDEMIC OF INFLUENZA

The present epidemic that is sweeping over the city has given rise to comment as well as discomfort, and recalls the past epidemics of la grippe. Many who suffered from the first onslaught of the disease are pleased to report their experiences and to testify to their frequent attacks. A number of people claim to have the infection every year regularly, and as regularly are on the watch for the early symptoms. Every cold contracted, whether from carelessness or from unavoidable conditions, is called grip, and all symptoms, recent or remote, are faithfully ascribed to the bacillus.

Pfeiffer, in 1892, was the first to find in the nasal and bronchial secretions the influenza bacillus. He describes it as slender and short with rounded extremities that stain easily with analine colors, as, for instance, carbol-fuchsin, particularly at the extremities, and can be grown in pure culture upon blood-agar, and successfully inoculated in monkeys.

The predisposition to influenza is ever present in season, and the period of incubation is short. These circumstances explain the explosive suddenness of the attack and its widespread appearance in communities. It is probable the infection takes place through immediate contact rather than through the air, although the air contact is the more reasonable explanation when the disease is epidemic. The first symptoms are usually a chilliness and a rapid rise in temperature (101° to 104° F.) The succeeding symptoms depend upon the form the disease assumes, bronchial, gastro-intestinal, or nervous. The first form is looked upon as a severe coryza or bronchial catarrh, and is accompanied by cough and expectoration; the patient is usually ill but a few hours with but few symptoms, the most annoying of which is cough. The gastro-intestinal form is the most severe. The patient has fever, pains in the deep muscles, diarrhea, and anorexia, and is confined to the bed or in the house for a few days. The nervous form is accompanied by depression, pains in the nerve-trunks, moderate fever, and exhaustion, and is slow in recovery. Occasionally this form is followed by severe nervous disturbances, like multiple neuritis, neuralgias, or cerebro-spinal infections, which implicate the membranes and cause paralysis and death. The influenza bacillus is frequently responsible for many serious complications from an accumulation of bacterial toxins.

Pneumonia is a frequent sequela, and is responsible for a large number of deaths during the epidemic. Inflammatory diseases of mucous membranes may extend to the frontal sinus, the antrum of Highmore and the Eustachian tube into the tympanic cavity. The lungs and heart may be involved and chronic disease develop, which leaves the patient permanently crippled. The young and robust suffer but little; the weak or aged are the ones who develop the serious forms or complications of the disease. Fortunately the present epidemic is not often followed by grave conditions. The duration varies from twenty-four hours to a few days only.

Whatever the form, strict attention should be given to prevention of complications. The treatment consists chiefly in rest and quiet, which favor elimination, as well as isolation and antiseptic sprays.

THE OSTEOPATH AGAIN

The indictment and arrest of an osteopathic practitioner in St. Paul for treating a contagious disease (diphtheria), is a step in the evolution of the irregular practitioner, and a striking evidence of the necessity of obeying the laws regulating the spread of disease. If our health laws are to be enforced an example must be made of those who violate them knowingly. It has been almost impossible to convict a Christian Scientist, owing to the apathy of the prosecuting attorney and the fear of offending the followers of the faith. The same reluctance will prevail if an osteopath is the offender. All cults practicing medicine under an assumed name are in a measuse excused when brought to trial. Their followers and adherents bring up the old cry,—persecution by the doctors who are jealous of the success of the new schools. For a time the sympathies of the public are with the prosecuted and their martyr-like attitude saves them from conviction.

The irregulars claim their method of treatment is still in its infancy and should not be condemned without further trial. They also claim that the regular practitioner does not save all of his patients and thus endeavor to hide behind the screen of public opinion. As a matter of fact the regular does not claim his ability and skill or method of treatment will cure all diseases, particularly a virulent disease like diphtheria. He does claim, however, his training enables him to recognize diseases of this kind, and he aims to prevent others from contracting it by adhering to the laws which govern him and the disease. If the osteopath is able to recognize and treat such diseases he is certainly practicing medicine and should be willing to avail himself of the regulations which surround the practitioner. If he is anxious to be recognized on the same footing he must prove his competency by submitting to the examinations provided by the State for licensing the practitioner. If he will do this he will be protected, providing he obeys the common law.

This case will be an object lesson for the legislator when the osteopath presents his biennial bill for recognition.

The health officer, Dr. Ohage, prepared his case with great care. The bacteriological examinations made by him and his associates demonstrated the existence of diphtheria in the dead child. The assertion of the osteopath that many cases of diphtheria were treated and cured by osteopathy, although he had never before treated a case, shows the need of persistent watchfulness on the part of the health commissioners.

If the statement is true that osteopaths treat contagious diseases it is pertinent to enquire into their methods, and their efforts to prevent further contagion by the change of clothing and the isolation of their patients.

If Mrs. Eddy has deemed it wise to advise her associates to let contagious diseases alone, the same advice should be given the osteopaths by the State Board of Health, and until they show their qualifications they should be rigidly kept in their proper places.

DIET FOR INVALIDS

"What shall we give the patient to eat?" is the cry from the sick-room. Many physicians ignore the question, others treat it lightly by allowing the patient anything within ordinary reason, while others are confused and in doubt as to what foods are best suited to the individual. There are certain extremists who adhere closely to certain lines for special disease-states, and who believe that dietetic errors are responsible for continuance of symptoms. In well defined diseases like typhoid, gastro-intestinal inflammations, and acute renal disease, a strict adherence to liquid foods is usually of benefit, from the fact the digestive tract is practically at rest. The ordinary, every-day, walking case may need some advice toward moderation, and selection in quantity and quality of foods to be ingested, yet it is the duty of the physician to put the intestinal apparatus in order, that it may care for and digest an ordinary every-day diet.

A few years ago the man who had Bright's disease or diabetes was placed upon starvation foods in restricted quantities; to-day these diseases are fed on mixed foods in generous proportions under reasonable restriction. The faddist who deliberately starves the patient, prohibiting foods of any sort for from twenty to forty days, is treading upon dangerous ground, and not infrequently is obliged to call upon a physician to sign the death certificate. Moderate starvation, or even the withdrawal of all foods for a few days, is frequently followed by the cure of many apparently chronic states. Patients occasionally voluntarily abstain from foods for twenty-four or forty-eight hours, thereby giving their overworked organs a much needed rest. In cases where foods are withdrawn the purpose must be clear, and the patient guarded from the unexpected.

It is generally conceded that a mixed meat diet for its heat-producing properties is natural and most suitable to man. Vegetable foods are bulky, irritating, and less assimilable. A few men who subsist on vegetable foods exclusively may keep up their usual form or gain in weight, but the average vegetarian does not compare favorably with his meat-eating or mixed-food brother. For many reasons a mixed diet regulated to the individual, whether well or sick, is rational and health-giving.

Kuttmer*, in the Berliner Clinic on "The Respective Merits of Vegetarianism and Mixed Diets," is a believer in mixed diet, although he admits that a modified vegetarian diet properly supplemented by milk, butter, cheese, honey, eggs, etc., is of great value in many diseases, in adults who are corpulent and suffer from atonic constipation; dyspepsias of nervous origin; gouty or idiopathic neuralgias; the headaches of neurasthenia, hysteria, epilepsy, exophthalmic goiter; nervous insomnia, urticaria, psoriasis, and scrofula. It is contraindicated in all heart weakness, myocarditis and arterial sclerosis.

In weak, broken down patients with chronic catarrhs and atony of the stomach the vegetarian diet must be gradually approached and maintained temporarily.

In gastric neurasthenia in patients of good physique, complicated with habitual constipation, the diet may be instituted rapidly and maintained for a long period with safety.

Too much attention cannot be given to the diet question in chronic cases, not alone for the quality and quantity of food, but for the moral and disciplinarian effect upon the patient. Occasionally too much restriction placed upon suggestible patients will give them a fixed idea that most foods are harmful or poisonous, and they are slow in recovering their normal tone and exceedingly slow in eliminating their erroneous food ideas.

REPORTS OF SOCIETIES

THE MINNEAPOLIS PATHOLOGICAL SOCIETY

A. T. Mann, M. D., Secretary

The December meeting of the Minneapolis Pathological Society was held at the Pathological Laboratory of the University, Dec. 15, 1902, the president, Dr. L. B. Wilson, in the chair.

Dr. J. L. Rothrock, of St. Paul, presented the main specimens of the evening, sections of the valves of the heart and of blood clot in the heart of a fatal case of gonorrheal endocarditis. This will be reported elsewhere more *in extenso*. The following is a brief history of the case:

Mrs. G——, aged 37, about ten days after a series of gynecological operations, developed an arthritis of the right shoulder joint. Examination of pus from the urethra showed the presence of gonococci. Meanwhile the joint symptoms failed to be relieved by the usual antirheumatic treatment. Cardiac complications developed later, from which the patient died, June 24th, nearly two months after the operation. Autopsy was not permitted, but Dr. Rothrock succeeded in obtaining the heart, not, however, until the body had been embalmed. The heart was slightly enlarged, and there was some dilatation of the left ventricle. The mitral valve was competent, and along the border of the anterior leaflet, on the auricular surface, there was a row of pink vegetations about the size of millet seed. There was no curling or contraction of the valve, and the vegetations seemed fresh.

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*Advanced Therapeutics, January, 1903.

The posterior leaflet was normal, except for a few spots of atheroma near the base of the valve.

The aortic valves showed evidence of an intensely destructive process.

The anterior leaflet was practically replaced by a fibrinous thrombus, in which here and there fragments of the greatly changed valve could be seen. Another leaflet bears evidence of the highly destructive process by the presence of a perforation extending almost across its entire width. Attached to the edge was a small vegetation. Microscopical examination shows the fibrinous thrombus to be composed of fibrin in which are leucocytes and blood plates. Staining by Wertheim's special stain for the gonococcus shows the presence of a diplococcus with characteristic intracellular arrangement and which is decolorized by Gram's stain; that is, we have a gonococcus infection.

Researches have shown that infection with gonococci extends, not only along mucous membranes, but also along lymph channels as well as along blood channels just as other pyogenic infections extend.

Dr. L. B. Wilson spoke of an autopsy on a child of ten years, made in a case of rabies twelve hours after the injection of an embalming fluid, and yet the bacillus of rabies was not killed. He suggested that the gonococci in Dr. Rothrock's case may have developed largely after death though the case had early been embalmed with a formalin solution, and this late growth had not taken place in all probability.

Dr. A. W. Abbott stated that most of the specimens of Fallopian tubes which he has, show extension of the gonococci along the lymph channels as well as on the mucous membrane. Dr. Abbott showed sections of a solid tumor of the ovary, 4x3x2 inches, with a couple of cysts at one pole and Morgagni cysts at the end of the whole. The section seemed to be a sarcoma in the main. Dr. Abbott said in regard to symptoms that there is often irregularity in menstruation with tumor of one ovary.

Dr. Abbott also showed sections of a uterine curettage.

Dr. Nickerson showed a specimen of eustrongylus gigas, the largest type of round-worm parasites known. This specimen was 52 centimeters long. It was found in the peritoneal cavity of a dog, and was squirming about at the autopsy. It usually occurs in the pelvis of the kidney. It has been found in man in other countries. Its life cycle is unknown. It is believed, however, that there is an intermediary host, and that it is a fish, but this is not known. Dr. Nickerson's specimen is one of the largest reported.

Dr. Wesbrook spoke of a case which entered the Johns Hopkins Hospital, comatose. Nothing could be found except that Widal reaction was present, that there was pneumothorax and gangrene of the lung. Cultures of the lung showed the typhoid bacillus. These were also found in the upper bowel.

THE SOUTHWESTERN MINNESOTA MEDICAL SOCIETY

H. D. Jenckes, M. D., Secretary.

The semiannual meeting of the Southwestern Minnesota Medical Society was held January 29, 1903, at the office of Dr. F. M. Manson, Worthington, the President, Dr. Emil King, in the chair, 24 members being present.

The committee on re-organization reported the plan as laid down by the State Society. The report was adopted and the society reorganized as the Southwestern Minnesota Medical Society, comprising the counties of Pipestone, Rock, Nobles, Murray, and Cottonwood.

The following officers were elected: President, Dr. Emil King, Fulda; vice-president, Dr. F. M. Manson, Worthington; secretary and treasurer, Dr. H. D. Jenckes, Pipestone; censors, Dr. M. Sullivan, Adrian, Dr. A. E. Spalding, Luverne, and Dr. William McGillivary, Pipestone.

Luverne was selected as the place of the next meeting, July 9, 1903. Dr. F. M. Manson read a paper entitled "Fractures of the Elbow," which was discussed by Drs. W. H. Rowe, A. E. Spalding, G. R. Curran, and C. O. Wright. "Treatment of Pneumonia," by Dr. C. O. Cooley, was discussed by Drs. Clark, Tomlinson, and others. "Hay Fever," by Dr. J. H. James, was discussed by Drs. Curran, Jenckes, and Spalding. Dr. A. E. Spalding presented a paper entitled "Ectopic Gestation," which was discussed by Drs. McLaren, Cooley, Wright, and Curran. Dr. Tomlinson read a paper on "Some of the Complications of Typhoid Fever," which was discussed by Drs. Wright, Curran and Cooley. "Switzerland as a Medical Center," by Dr. Curran. Dr. A. McLaren of St. Paul presented a paper entitled "The Relationship between Enlargement of the Prostate and Stone in the Bladder," which was discussed by Drs. Spalding, Curran, Wright, Cooley, and others.

The secretary was instructed to write the senators and representatives, in the name of the society, urging them to support the bill for the establishment of a state sanitorium for tuberculosis.

The thanks of the society were tendered Dr. McLaren for his very instructive paper.

Dr. S. J. Froshaug, Hills; Dr. C. P. Nelson, Westbrook; Dr. W. D. Beadie, Windom, and Dr. S. D. Sour, Worthington, were proposed for membership.

BOOK NOTICES

Disease of the Anus, Rectum, and Pelvic Colon. By James P. Tuttle, A. M., M. D., Professor of Rectal Surgery, New York Polyclinic College and Hospital, Visiting Surgeon to the Almshouse and Workhouse Hospital, Fellow of New York Academy of Medicine, Fellow of Chicago Academy of Medicine, etc. Eight colored plates, and three hundred and thirty-eight illustrations in the text. Cloth, $6.00. New York: D. Appleton and Company.

In this volume Dr. Tuttle has written a book which is, on the whole, an interesting and instructive one. In some portions of the work the manner of presenting the subject matter seems somewhat diffuse, and suggests that the book would have been increased in value if it had been made smaller. As a whole, however, it is worth the reading. Its greatest value will be to the general practitioner who will find the style easy to follow, and he will gain a broader view and a better perspective of the affections of the anus, rectum, and pelvic colon than he can gain from his ordinary text-books.

There are over three hundred illustrations, which, as a rule, are well selected, and add materially to the value of the book.

Most of them are half-tones, and have considerable artistic merit. Only a few of the cuts are in colors, and it is well that it is so, because, as a rule, it seems practically impossible to produce colored drawings which give any idea of the real conditions they represent. They more often mislead than instruct.

The book is well bound, and printed in clear type on fine paper and altogether makes a valuable contribution to the subject.

Arthur T. Mann.

Diseases of the Skin. A Manual for Students and Practitioners. By Alfred Schalek, M. D., Instructor in Dermatology, Genito-Urinary and Venereal Diseases, Rush Medical College, Chicago. Series edited by V. C. Pedersen, A. M., M. D., recently Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University in the city of New York; House Surgeon at the New York Hospital; Assistant Surgeon to the outpatient Department of the Roosevelt Hospital, and to the Vanderbilt Clinic; Physician-in-charge, St. Chrysostom's Chapel Dispensary, New York City, etc. Illustrated with thirty-four engravings. Philadelphia and New York: Lea Bros. & Co.

This little volume, neatly bound in cloth and consisting of 225 pages, is one especially commendable to students and as a pocket reference book for practitioners.

It is well written, condensed, and deals very thoroughly with general skin diseases. It is also well indexed, and contains a good classification of the different diseases.

The beginning is devoted to "General Diagnosis," "Anatomy of the Skin," etc. Each subject includes definition, symptoms, etiology, treatment, etc., and special attention is paid to prescriptions.

Especially commendable are the questions for students at the close of each subject. Perhaps more space should be devoted to pathology and illustrative plates, but on the whole the work should be well received.

W. H. Aurand.

A Treatise on Massage: Its History, Mode of Application and Effects, Indications and Contradictions. By Douglas Graham, M. D., member of the American Association for the Advancement of Science; of the American Medical Association; etc. Third edition, revised, enlarged and illustrated. Philadelphia: J. B. Lippincott Company.

The awakened interest of the Northwestern profession in massage makes this new edition of an excellent book very welcome. Dr. Graham has produced a book that will convince the general practitioner that massage rightly applied has a large field of usefulness, and will often take the place of the surgeon and specialist, while never supplanting the physician.

Massage may perhaps be given with impunity to indolent rich people by the masseur who knows nothing about anatomy, physiology, or medicine, but when a sick person takes this treatment he needs the watchful care and constant advice of the physician. Dr. Graham has not overlooked this important fact, and while he claims much for this treatment, he does not forget its limitations. He discusses practically all the conditions which massage may be expected to improve, and the large number of cases reported adds interest to the more formal statements.

The masseur and the student will also find a great deal of valuable information in the work, for the author enters extensively into the detail of treatment, and points out clearly how very many cases are handled.

WHO SUCCEEDS?

"I tell you," said the doctor, "it's the man who can push himself along that succeeds best in this world."

"Not at all," said the professor, "it's the man who can shove the other out of the way that succeeds best."—Chicago Tribune.

NEWS ITEMS

NORTHWESTERN NEWS

Dr. N. M. Cook has moved from Milaca to Bethel.

Dr. Frank Fursey, of Toronto, has located in Buford, N. D.

Dr. L. P. Eberhardt, of Altona, Ga., has located in Sioux Falls, S. D.

Dr. T. H. Thoresen, of Morris, Minn., has decided to locate in Benson.

Dr. E. E. Martin has moved from Kensal, N. D., to McHenry in the same state.

Dr. J. G. Lamont, of Cando, N. D., has been doing post-graduate work in the East.

Dr. E. M. Clay, of Renville, who has been seriously sick, is reported much improved.

Dr. C. H. Hunter, of Minneapolis, has gone to Cuba with a party of gentlemen on a private yacht.

Dr. John Manion, formerly of Eyota, died last month at Charlotte, Iowa, and was buried at Eyota.

Dr. Tarbox, of Princeton, has been assisting Dr. Caine, of Morris, during the serious illness of the latter's wife.

Dr. Charles McCullum, of Fessenden, N. D., was married last month to Miss Zeruah Fee, of Pontypool, Ontario.

Dr. G. A. Stevenson, of Albert Lea, has returned from the East where he has been doing post-graduate work.

Dr. Francis Dennis, of New York, professor of surgery in Cornell, has been visiting St. Mary's Hospital at Rochester, Minn.

Dr. F. E. Larson has removed from Ashby to Parker's Prairie. Dr. Larson is a recent graduate of the University of Minnesota.

Dr. Alfred Marks, of Moorhead, who is now in Vienna has received the appointment of assistant in the clinic of Prof. Dr. Fuchs, who has the largest eye clinic in Europe.

Dr. John Watson, of Mountain Lake, has purchased the practice of Dr. George W. Moore, of Hopkins, Minn., and will at once move to Hopkins. Dr. Moore goes East.

The Nicollet County Medical Society has elected the following officers for 1903: President, Dr. H. A. Tomlinson; vice-president, Dr. J. W. Daniels; treasurer, Dr. N. H. Darling; secretary, Dr. Hopkins.

The positions of internes in the City and County Hospital of St. Paul have hitherto been open to graduates of Hamline and the State University only, but hereafter all comers will be admitted to the competitive examination for these places.

Dr. Alex J. Stone, of St. Paul, has been appointed surgeon general on Gov. Van Sant's staff, to succeed Dr. A. A. Ames. It is surmised that the governor wanted a better democrat for this honorable position on his staff than the late mayor of Minneapolis.

The first regular meeting of the Red River Valley District and County Medical Society was held in Crookston last month. Twenty new members joined, and the outlook for the society is very bright. Dr. G. A. Morley gave the members a banquet at Hotel Crookston. The following were elected officers for 1903: President, Dr. C. E. Damper, Crookston; vice-president, Dr. G. S. Wattam, Warren; secretary-treasurer, Dr. H. Holte, Crookston.

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SWITZERLAND AS A MEDICAL CENTER

By G. R. Curran, B. S., M. D.

MANKATO, MINN.

That Switzerland is a charming spot is well known, and the fame of its scenery may have overshadowed its other excellencies. Its advantages as a medical center are not recognized as they deserve to be. This country, about one-seventh the size of Minnesota, has within its borders five universities, each with a medical department. They are located at Berne, Basel, Geneva, Lausanne, and Zurich, and each has about a thousand students. There is a respectable college at Freiburg, and also one at Neuchatel where Prof. Agassiz taught for thirteen years before coming to Harvard. The number of their universities is accounted for by the intelligence and the general prosperity of the common people. In no country, the United States not excepted, is there so little want and such a general air of prosperity as among the Swiss.

Again, just as America received from the Revolution of 1848 in southeastern Europe such men as Dr. A. Jacobi and Carl Schurz, so has Switzerland obtained many good men from the constant ebulition of the political pot of Europe. Its students, too, are largely drawn from other nations. For instance, in the Medical Department of the University of Berne, where the number of women equals that of men, 90 per cent of the women are from Russia. Dr. Kocher, Professor of Surgery at Berne, is one of the best, if not the best surgeon in Europe. His work on "Operative Surgery" is the standard work on the subject in all German-speaking countries. He received his appointment to this chair in 1870, and is still the hardest worked man whom I saw while abroad. He is pleasing to meet and speaks English, German, French, and a little Italian. Of the dozen visitors gathered every morning at his clinic, almost every one represented a different nation. He begins his work about eight a. m., the senior class coming over to it from a clinic in obstetrics where they already have been to work for two hours. He shows cases for two hours, and then operates for two to three hours more. His operating-table is so constructed that the patient lies on a tank of hot water the size of the table and a few inches deep. He uses rubber gloves in septic cases only, and is partial to white cotton gloves, discarding them as soon as they are soiled. The most of his instruments, of which he uses a good many, are of his own construction, and he is particular to get the proper one.

Silk is the only ligature used, and the glover's stitch is the only stitch used. The continuous suture and the glover's stitch he emphasizes as one of the chief points in the success of intestinal and stomach surgery. He is best known for his work on goitre, 2,400 cases of which he has operated upon to date, and his son has operated on 350 more. They are of all nationalities, Russians predominating, and I saw one lady from Chicago. This operation he always performs with the aid of a local anesthetic only, so that when near the recurrent laryngeal nerve, he can ask the patient to give the vowel sounds, which is impossible if that nerve is clamped, and he thereby avoids the danger of cutting it. He is also careful not to cut the capsule. The hypertrophied organ of one case is often implanted into the capsule of the degenerated organ of another case with good success. But he never resects a goitre unless the inferior thyroid artery has been previously tied.

After Billroth, no name is so intimately connected with the success and present technique of stomach operations as that of Prof. Kocher. He avoided the "fatal angle of Billroth," and planted the intestine onto the side of the stomach. His operation for the radical cure of hernia, in which he inverts the sack, bringing it out through an opening of its own, tying it off and anchoring it to the abdominal peritoneum, has many important advantages.

One morning he took the half of one tibia and inserted it in the other leg where the entire tibia had been destroyed, and with good results. He operates on all parts of the body with equal skill.

Berne has two other well-known men, Prof. H. Sahli, director of the Medical Clinic, whose work on "Physical Diagnosis" ("Der klinischen Untersuchungs Methoden") is the standard work on this subject in German-speaking countries, and Prof. Gerard, who does much plastic work in surgery.

Two hours' ride from Berne is Lausanne, situated on Lake Geneva, with a commanding view of the lake and the snow-capped Alps. Prof. Roux, of its university, is noted for having invented the "Y operation," stretching the long saphenous and anterior peroneal nerves for ulcers of the leg. He is an exceedingly fast operator. He did an appendicitis operation in three and one-half minutes, double inguinal hernia in sixteen minutes, and others just as quickly. He is a pupil of Prof. Kocher's, and the language of the clinic is French, but sometimes by request he will speak German. Another French university is at Geneva, which is an hour and a half's ride by train and somewhat longer by boat from Lausanne. Prof. Reverdin has invented many instruments, the needle which bears his name having come into universal use.

Two hours' ride from Berne in a northeasterly direction is Zurich, situated on the rapid green Limmat, just as it emerges from Lake Zurich. A sufficient power is here generated to make Zurich the metropolis and the chief manufacturing city of the state. Prof. Kroenlin is best known for his work in removing malignant growths from the larynx. Dr. Schlatter, his associate, received much advertising in the daily press in 1899, when he removed the entire stomach from a woman. She then lived a year, dying from metastatic growths in other organs. They like to tell you in Zurich that Prof. Billroth once taught in their university.

The Swiss universities begin their work in the latter part of October, and close the last of July. One may thus combine here a great many good clinics within a few miles of each other, a pure air, an invigorating climate and grand scenery.

SEX AND FOOD

The male human needs more food than the female, not only on account of his larger stature, but also because he is the more katabolic of the two. The man tends to expend energy and the woman to store it up in the form of fat; he burns the faster. This sexual difference shows itself in the very blood; the man has a larger percentage of chromocytes than the woman, showing that he needs a proportionately larger quantity of oxygen in order to maintain this more active combustion—a fact which one may associate with his comparative freedom from chlorosis; moreover, weight for weight, his pulmonary capacity is greater than that of the woman, whose smaller respiratory need is further shown by the facility with which she can without discomfort diminish her breathing power by means of the corset. The great contrast between the metabolic activity of the two sexes was forcibly brought home to me by a military display given by a troupe of dusky amazons, with whom were also a few male warriors. The women, in spite of their daily exertions, were all rounded and plump, some very much so, no single muscle showing through the skin, and it was noticed that their movements, though full of grace, lacked energy and "go." The men, on the other hand, were spare, their muscles standing out plainly under the shiny skin, and they, in further contrast with the women, displayed a truly amazing agility, bounding about and whirling round in a most astounding fashion; the women, in short, were essentially anabolic and the men katabolic.—The Lancet.

INFLUENZA AND ITS RELATION TO MOTOR PARALYSIS*

By H. K. Read, M. D.

Demonstrator of Anatomy, University of Minnesota

MINNEAPOLIS

There is probably no disease that is so readily diagnosed and treated by the laity as influenza, and, I might add, no disease that is less understood in all its various phases. The name covers a multitude of sins and mistakes. It is so easy for the physician and so reassuring to the patient to give the name of influenza to the peculiar malady from which he or she is suffering. The patient's diagnosis is confirmed, the physician has given the disorder a name, and everything is lovely, unless trouble develops. I wish to enter an earnest protest against the levity with which the public and many physicians regard this disease.

If it were possible to obtain statistics relative to the mortality of this disease, I believe the results would be appalling. I do not mean that such mortality immediately follows an attack of influenza, but, rather, that the malady predisposes to infection of various sorts, especially among the aged and infirm. The normal resistance is broken down, and the person succumbs to some intercurrent trouble. Like to hysteria, influenza can take on many forms, and the object of this paper is to describe one of those peculiar forms. Before doing so, however, I think it will be necessary to refresh our memories with a few facts regarding the causation, etc., of the malady. Influenza, la grippe, or epidemic catarrhal fever, is defined as an acute contagious disease, caused by the bacillus of Pfeiffer. It may be endemic, epidemic, or pandemic. I shall not weary you with a historical description as to when and where it first appeared. This is very interesting, but it would exceed the limits of this paper.

It was epidemic in this country in 1647, with subsequent occasional outbreaks. In Dec. 1889, and Jan. 1890, it was, as Anders describes it, an explosive epidemic. It has appeared in sporadic form ever since. The germ is air-borne and travels with great rapidity. It is communicated by contagion, and transferred by fomites. The age of the person has slight influence as a predisposing cause, though some authors claim the greatest susceptibility from the twentieth to the thirtieth year. An attack confers no immunity. Various clinical types are described, such as cardiac, respiratory, gastro-intestinal, typhoid, rheumatoid, etc. Nervous sequelæ are noted as insomnia, mania, neuralgia, migraine, melancholia, meningitis, acute ascending myelitis, locomotor ataxia, peripheral neuritis, and perineuritis.

This brings me to the subject proper of this paper, Influenza and Its Relation to Motor Paralysis.

The case I am about to describe has been very interesting and instructive to me, as it has been my good fortune to note the various phases for a period of nearly twenty months.

March 10, 1901, I was called to the case, and arrived about 4 p. m. The patient, Miss ———, was a well nourished young woman, and I obtained the following history:

Age, 23; previous sickness, none; had never called a physician; menstruation, regular; disposition, cheerful and happy; occupation, clerk in department store; family history, good. Upon examination I found the temperature normal; the pulse, 90; physical signs, normal; tongue slightly coated; pain and tenderness, absent; urine, examined later, negative.

The present sickness dated back ten days. Her work at the store subjected her to drafts caused by the opening and closing of large doors leading out to the street. During the cold weather in the latter part of February she was much inconvenienced by the cold air rushing in. For a few days at this period she had headaches. Then her hands seemed to get cold, and she wore gloves about her work as much as possible. The fingers seemed to get clumsy and awkward, and she could not write out her purchase-check. Shortly afterward she could not remove covers from boxes; then she could not raise herself up so as to stand on her toes. She continued at her work in this condition for nearly a week, and then gave up and went home. From that time she seemed gradually to grow weaker, as she expressed it, and at the time of my first visit this was her cause of complaint. She was able to walk in a halting manner, and could, to a limited extent, raise her arms.

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*Read before the Minneapolis Medical Club, November 20, 1902.

I ordered tablets of calomel, ipecac and soda as tongue was coated, and elixir lactopeptine with phosphates of iron, quinine and strychnia, and asked the patient to report her condiiton in two days. At the end of this period her condition was reported as gradually growing worse, and I was asked to take charge of the case and treat it as I saw fit. My next visit was on March 15th, and I found the patient normal in every respect with the exceptions which I will note. At this visit I took along a very good faradic battery, and was able to tell by the use of it the nerves and muscles affected. I found a total paralysis of the nerves that supply the muscles of the arm and forearm with the exception of the musculo-cutaneous nerve, which supplies the biceps, coraco-brachialis, and largely the brachialis anticus. Thus there was paralysis of the nerves to the supra- and infra-spinatus, teres major and minor, latissimus dorsi, pectoralis major and minor, subscapularis, deltoid, triceps, and all the extensors and flexors of the forearm. As you know, all these nerves are from the brachial plexus. This condition was the same with the two upper extremities. The musculo-cutaneous nerve is also from the brachial plexus from the outer cord with the outer head of the median, and yet this nerve (mus. cut.) seemed to escape the trouble as I was always able to get the action of the biceps.

Upon examination of the muscles of the lower extremity the condition was peculiar, as the sacral and lumbar plexus were both to a large extent affected, and the patient could not arise from a sitting posture, but when raised to the erect position, she was able to walk in a halting manner. The feet, however, could not be raised high enough to allow getting up stairs. This was the condition of the motor nerves of the upper and lower extremities. There was no loss of sensation, so that the sensory nerves were not involved. The menses came on a few days later, and continued the regulation time.

I wish to state that from the first this condition of the nerves was painless. At no time did the patient have any pain.

There was no atrophy of the muscles. There was absolutely no history of specific trouble. There had been no diphtheria and thus I felt I could eliminate the two latter causes.

I refused to make a diagnosis or prognosis at this time, but ordered good doses of strychnia and told the family I should continue to use the electric current in an effort to prevent, as far as possible, any atrophy of the muscles. My diagnosis had to consider:

1. Neuritis.
2. Progressive muscular atrophy.
3. Landry's paralysis.
4. Some infection affecting the motor trunk and sheath.

Progressive muscular atrophy was eliminated, as in this disease atrophy is quite marked before complete paralysis. Landry's paralysis was eliminated, for this begins in the feet, and involves the regions above quite rapidly. There was left to consider:

Neuritis or .

Some infection affecting the motor nerve-trunk and sheath. My diagnosis included the two latter conditions, and my prognosis was guarded, as I could not tell as to the outcome nor the length of time that the paralysis would continue. I gave as my opinion that the malady was a form of influenza infection, and asked for consultation if there was no change for the better within a week. My treatment was strychnia and potassium iodid, and faradism. As no improvement was shown at the end of the week, Dr. W. A. Jones saw the case with me, and made a diagnosis of influenza infection, and assured the patient she would get well. He advised that I continue the same treatment, and wait for time to effect a cure. On April 21st, six weeks from date of the first visit, the patient was about the same, with a little improvement in the right upper extremity. Treatment at this time was strychnia, 1-20, t. i. d., and the electric current every two to three days. On May 3 I discontinued my visits, leaving my battery for the patient to use. On May 21st, about ten weeks from date of first visit, the paralysis was gradually becoming less marked, and patient had fairly good control of the right upper extremity, but the left upper showed no improvement. She had sufficient power in her lower extremities to enable her to get up stairs, but not enough to allow her to arise from a sitting posture.

About this time friends advised patient to try the osteopathic treatment, which was continued for some time, and undoubtedly helped to maintain the integrity of the muscles. One year from date of the first symptoms the patient was able to get around quite comfortably, and during the last summer she was able to do bicycle riding. There is quite a marked atrophy of the muscles of the forearm.

This case is interesting as it offers proof of one of the many ways in which the influenza infection may act,—the short period involved in the length of time for the infection to obtain its foothold and the long period involved for regeneration of the nervous tissue. One strange phase of the case described is the fact of the musculo-cutaneous nerve escaping the trouble while others or rather all of the balance of the brachial plexus were involved.

I understand that my case was one of several which were affected at the same time by the same sort of infection. There might be some explanation for this, but I will not volunteer any.

As to the location of the lesion causing the paralysis, the trouble would seem to be located in the anterior horn of the spinal cord as the infection or toxemia involved only the motor tract. I think this is quite an instructive and peculiar case owing to the fact that the sensory nerves were not involved. I cannot give satisfactory reasons for this, but I believe it offers a fruitful field for pathological speculation.

ENNO SANDER PRIZE FOR 1903

The subject for the above prize essay for 1903 is "The Differential Diagnosis of Typhoid Fever in Its Earlier Stages." The first prize is a gold medal valued at $100, and the second is honorable mention, and a life membership in the Association of Military Surgeons of the United States.

The conditions of the competition are as follows:

1. Competition is open to all persons eligible to active or associate membership in the Association of Military Surgeons of the United States.

2. The prize will be awarded upon the recommendation of a Board of Award selected by the Executive Committee. The Board will determine upon the essay to which the prize shall be awarded, and will also recommend such of the other papers submitted, as it may see fit, for honorable mention, the author of the first of which shall receive a life membership in the Association.

3. In fixing the precedence of the essays submitted, the Board will take into consideration—primarily, originality, comprehensiveness and the practicability and utility of the opinions advanced, and, secondarily, literary character.

4. Essays will consist of not less than ten thousand, nor more than twenty thousand words, exclusive of tables.

5. Each competitor will send three typewritten copies of his essay in a sealed envelope to the Secretary of the Association, so as to reach that officer at least one month before the next ensuing annual meeting.

6. The essay shall contain nothing to indicate the identity of the author. Each one, however, will be authenticated by a nom de plume, a copy of which shall, at the same time as the essay, be transmitted to the Secretary in a sealed envelope together with the author's name, rank and address.

7. The envelope containing the name of the successful competitor will be publicly opened at the next succeeding annual meeting of the Association, and the prize thereupon awarded.

8. The successful essay becomes the property of the Association of Military Surgeons of the United States, and will appear in its publications.

The Board of Award are Brigadier General Austin Flint, New York; Colonel Calvin De Witt, U. S. Army, and Lieutenant Colonel Victor C. Vaughan, U. S. Vols.

James Evelyn Pilcher, Secretary,
Carlisle, Pennsylvania.

FEEDING

The frequency of feeding is an important question, and one about which there has been the greatest divergence of opinion, save only for the general agreement that the meals should be more frequent than in health. From our definite knowledge of the condition of the stomach after test meals, it may be positively asserted that at least two hours is required for the passage of the lightest possible meal, except a noncoagulable liquid, through the pylorus. It is clearly unwise to interrupt the digestive process by the introduction of fresh food, or even to keep the stomach continuously occupied. Thus, theoretically, as well as from the result of practical experience, we may state that the meals should not be given oftener than every three or four hours. On the other hand, if we exeed the four or five hour interval, it is difficult to introduce sufficient nutriment without overtaxing the capacity of the stomach on a milk or analogous diet, or without exceeding the limits of the appetite and the power of the digestive glands to deal with the food.—Dr. Benedict in Medical Standard.

TUBERCULOSIS*

By H. M. Bracken, M. D.

Secretary Minnesota State Board of Health

MINNEAPOLIS

Tuberculosis, a preventable disease, has received entirely too little attention in this state up to the present time. It is a common thing for a single living leper in a community to cause a panic, yet leprosy is as nothing compared with tuberculosis.

The records in this state during the past twelve years show that more than ten per cent of all deaths each year have been due to tuberculosis. The high mortality from this disease in state institution is due largely to the physical condition of the inmates, but in part, it must be admitted, to institutional infection due to lack of isolation of those diseased. Such conditions are dependent upon overcrowding, and not upon lack of appreciation, by those in charge, as to the importance of isolation.

The question of establishing sanatoria for the tuberculous is under consideration at the present time in many states, and our own legislature, at its present session will undoubtedly take some action upon the report of the commission appointed by the legislature of 1901 to investigate the necessity for such institutions.

In considering the care of the tuberculous there are three questions involved:

1. The care of the incurable.
2. The care of the curable.
3. Protection of the healthy from infection.

The first is an important work, and is well illustrated at the state institution at Rutledge, Mass. The cases here cared for are carefully selected, only those individuals being received who are in the early stages of the disease. The results as shown by the recovered cases are most satisfactory.

This institution has accommodation for 250 patients. The weekly maintenance for each patient was $9.74½ in 1900 and $9.47 in 1901.

During the year, Sept. 30, 1900, to Sept. 30, 1901, 575 patients were cared for (the capacity for this period was for 200 patients) the daily average being 168.

The result of treatment at this sanatorium shows that in the first year 64 per cent, in the second year 64½ per cent, and in the third year 76 per cent of all grades of incipient cases were apparently cured or arrested.

The good work of this institution is not limited to the actual care of resident cases. Its educational influence is far reaching. The patients who go home with the disease arrested or cured have learned how to take care of themselves. Their methods are noted and followed by others who may not have been able to gain entrance to the sanatorium, and these, too, derive some benefit from such scientific methods used in the care of this disease.

The establishment of state sanatoria for the care of the tuberculous is most commendable, but at present it does not go far enough in the effort to control this disease. Massachusetts was able to care for 482 patients at Rutledge in 1900. The same year that state had 4,390 deaths from tuberculosis. The sanatorial care of 482 incipient cases in a state showing such a high death rate from this dread disease is but a beginning. The same year Minnesota had 1,864 deaths from tuberculosis, but up to the present it has no sanatorial treatment for this class of patients. The province of Ontario in 1900 passed an excellent law providing for the establishment of municipal sanatoria for consumptives. In this, provision was made that the Province should pay a proportion of the cost and maintenance of such institutions. This is wise, for it encourages the establishment of many rather than of a few such institutions, the same being near the homes of the patients, a great desideratum. Still further: the conditional aid of Province is an incentive to municipalities to undertake a work that otherwise might not receive their sympathy and support.

The Massachusetts Sanatorium at Rutledge is for the benefit of the incipient cases, and this is true of most of the state institutions. In planning for the care of the tuberculous we must not forget the incurable. They demand our consideration for two reasons: (1) The protection of their uninfected associates; (2) their individual comfort. The former is a utilitarian problem, the latter a humanitarian duty.

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*Taken from advance sheets of the biennial report of the Minnesota State Board of Health, now in preparation.

Looked at from the most selfish standpoint it is bad policy to leave the incurables where they can infect others. It is an unprofitable investment for a state or municipality to permit a poor consumptive to remain in close association with other members of the family, for the infection will in all probability be spread by such a procedure and the lives of others be sacrificed. It is permissible to leave a tuberculous patient at a home where it is possible to carry out the necessary sanitary methods to prevent the infection of others, such as sleeping alone, disinfection of sputum and excreta, control of sputum and excreta, and general cleanliness. But the duty of removal of tuberculous patients is absolute where such an individual is living in a small house with probably not more than one or two sleeping rooms for the entire family and each bed occupied by two or more persons.

Looked at from the humanitarian standpoint it is certainly the duty of some one to provide a suitable home and comforts for the suffering tuberculous individual condemned by the nature of his disease to a slow and painful death. What is more pitiful than a tuberculous outcast? And yet how many of them are to be seen in all parts of the country. The private and church hospitals do not want them, and many of the municipal hospitals refuse them lodgment or grant them a home grudgingly. Compare the wards set aside for the tuberculous in certain hospitals with the wards used for other medical or for surgical cases. It will readily be seen that the tuberculous individuals have scant attention. From every point of argument, therefore, there is a demand for sanatoria and hospitals for the tuberculous—to give opportuniy for recovery to the curable, to protect the noninfected, and to make the journey to the grave endurable for those for whom there is no hope.

In October, 1901, the idea suggested itself to me of trying to secure data somewhat specific in nature bearing upon deaths due to tuberculosis. I therefore had the following blank prepared and one of these has been sent to the last attending physician when a death from tuberculosis has been reported to this office.

MINNESOTA STATE BOARD OF HEALTH

Information Relating to Death from Tuberculosis.

A. Patient:
Name. Age.
Date of death. Place of death.
Occupation
Duration of disease.
How long confined to house?
Was there a period of apparent recovery?
If so, how long duration and due to what cause?
Probable source of infection.
What part of body was first affected?
Was case examined bacteriologically?
If so, by whom?
Was there any climatic or sanatorial treatment?
Were there previous known cases of tuberculosis in this family?
Was patient isolated? If so, at what stage?
Were suptum and excreta disinfected?

B. Other Members of the Household:
Number.
Ages.
Condition as to health of each.
Relation of patient to inmates of house.

C. House:
Describe location (high or low ground; also nature of soil)
Is there a cellar? If so, describe condition.
Give material of house (wood, stone or brick)
Describe finish of walls in room occupied by patient.
Give approximate size of house.
State number of floors.
Give number of rooms.
Give plan for each floor on the back of this sheet; indicate room or rooms occupied by patient.
When was the house built?
Present condition.
Has the house been disinfected since the death of the patient?
Were there previous known cases of tuberculosis in this house?
Is this a rented house or owned by the residents?
Name of reporter.
Address.

(Give on the other side a diagram of the house and indicate rooms in which patient was ill.)

I have already received over five hundred returns upon these blanks. In some cases the information given is unavoidably meagre. In a few cases physicians have given brusque replies and have refused to fill out the blanks; still other physicians have paid no attention to the blanks sent them. The greater number have given as complete returns as possible and these deserve the thanks, not only of this Board, but of the profession and public at large, for they have thus greatly aided in giving a substantial basis for statistics as bearing upon this disease.

From data thus given I have constructed two tables.* After due allowance is made for errors in diagnosis for some of these cases there is still much valuable information in these two tables. I have tried to show the relation of the final illness to the duration of the disease; also the possible source of infection. It would seem from the reports upon the disinfection of sputum, excreta, and rooms that not enough attention is given to this matter. The chief purpose of one table is to show the prevalance of the disease by decades; also the type of the disease and the probable source of infection for the different ages. The parts involved and the nature of the infection during the first decade of life is in marked contrast with those set forth in the third and fourth decades. It is to these latter and most highly fatal decades that we should give special attention.

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*These tables will appear in Dr. Bracken's forthcoming report.

Although it may be a coincidence, it is worthy of note that during the first decade the mortality is greater for males; during the second, third, and fourth decades for females; for the fifth decade the mortality is again greater among males. Above the age of sixty the rate of morality is about equally divided between the two sexes. It is fair to presume that for the first decade the higher mortality for males is purely accidental, and would in all probability not be borne out by a large series of cases. I cannot believe that male children are more liable to infection during infancy than females. It is not surprising that the mortality from tuberculosis is much higher for females than males during the second decade, although the general manner of living for both sexes is quite similar during this period, for undoubtedly the physical strain is greater upon the female than the male in passing from childhood through puberty to adult life. The higher mortality for the female during the third and fourth decade is as we would naturally expect it to be, due in part at least to the greater danger from infection because of an indoor life, the care of tuberculous patients, etc. Whether a long series of cases would bear out the showing of a higher mortality amongst males in the sixth decade may be an open question, but it is about what we would expect, for at this time a certain number of men break down physically, lead more of an indoor life, and thus, through greater susceptibility and increased exposure to infection due to environment, a greater number become victims of this disease. On the other hand a larger percentage of susceptible females than of males have been removed during the second, third, and fourth decades. For those over sixty years of age there is no apparent reason for any marked difference in the mortality from this disease as governed by sex, and the figures seem to bear this proposition out, although the number recorded is entirely too small to permit of drawing any definite conclusions.

It is worthy of note that the total deaths recorded do not differ materially for the two sexes, as shown by the following summary:

	Males.	Females.
Years 1 to 10 inclusive.........	25	17
Years 11 to 20 inclusive........	19	39
Years 21 to 30 inclusive........	53	61
Years 31 to 40 inclusive........	35	41
Years 41 to 50 inclusive........	40	28
Years 51 to 60 inclusive........	20	12
Above 60 years...............	11	12
Totals	203	210

BILL OF FARE FOR CONSUMPTIVES

Robin (Bull. Gen. de Ther.) advises a large glass of milk on waking, with a dash of vichy water. Breakfast at 8, with a piece of fat steak or a cutlet, two soft eggs, a little toast, oatmeal with abundance of cream, but little sugar, and two glasses of milk or a cup of coffee. At 9, cod-liver oil and a little milk, or a glass of milk with the yolk of an egg. At 10, a large cup of beef tea made from raw meat, after which the patient lies down until noon. Dinner at 12:30, with fish, rice, chicken, cauliflower, and a slice of well-buttered bread, one or two glasses of milk, and baked apples and cream. At 2, cod-liver oil or milk with the yolk of an egg. At 4, sandwich of scraped raw beef, and rest or sleep till 6, when the supper can consist of beef, fish, mutton or raw beef, with spinach cooked in cream. At 8, cod-liver oil or milk and yolk, and at 9 or 10, a glass of iced or very hot milk or a cup of good beef tea. At night, if wakeful, a glass of milk at 1 or 2. This regime is tolerated by nearly all patients, and has given the best results in his extensive experience. Milk is the constant beverage.

The City Hospital of St. Paul has been entertaining a patient who is said to have his heart, liver, and spleen, each on the opposite side from which it normally belongs. A daily of that city says he is "left-handed inside." That is a fair sample of the scientific language of the daily press.

MISCELLANY

A VIGOROUS PROTEST AGAINST SUBSTITUTION

The New York Medical News makes a statement concerning the evils of substitution that is both plain and emphatic. It is plain in laying the blame at the door of the physician, and it is emphatic in its statement of an appalling fact in regard to the widespread use of a heart-depressant that is absolutely dangerous. We quote the concluding paragraphs of the editorial:

From the laboratories where the exact potency of an absolutely pure drug is determined for endorsement in the U. S. Pharmacopœia, to the druggist's counter where supposably the same potency is being handed out on a physician's carefully written prescription there is often so wide a variation that one wonders whether it would not be safer for us to go back to the days of herbs and simples, and to cull and brew our own remedies.

At last the Health Department of New York has brought to the attention of the medical profession through the daily press, a forcible reminder of the widespread practice of substitution and of the adulteration of drugs. The medical profession has for years been thwarted in the greatest emergencies by the false values of the remedies furnished to their patients in their prescriptions. But the public has treated them with that tolerant, easy-going air of good-natured understanding, as though one should say "It *is* hard to see another man getting one's profits," and has given the warning no more thought than would be bestowed upon a patent medicine vender's earnest plea to "Take no other," and "Beware of substitutions."

Commissioner Lederle has set in operation a wholesale examination of the stuff that is commonly sold as phenacetin. His physicians and staff have purchased phenacetin powders from 373 drug stores, in Manhattan and Brooklyn. The official report gives the names of all, and includes many well-known drug stores, and department stores. *Among these samples, only 58 were found to be pure phenacetin, while the greater number, 315, were adulterated.* The chief adulterant was found to be acetanilid, selected undoubtedly because of its cheapness, and its similar effects, in part, to phenacetin.

In the sale of an ordinary ten-grain pure phenacetin powder, the druggist makes a little over 200 per cent. He buys the phenacetin at $1.00 per oz. and retails it in small quantities at $3.20 per oz. If his adulterant be acetanilid it is bought at the rate of 2½ cents an ounce, leaving him his sales almost clear. This mean and petty money traffic need not, however, be laid at the door of the retail druggist alone. It is important to lay the blame, however, where it is due, for the question is one with a double moral issue. The physician does not trouble himself about the druggist's profits or his sense of honor in dollars and cents; but he has his patient's health in his hands, and when he finds, if he ever does learn, that a cheap heart-depressant, such as acetanilid, is given in his prescription instead of the drug on whose certain action he is depending, he is justified in his honest indignation.

This is by no means a single instance. Nearly every drug in the Pharmacopœia is adulterated, and as such fails to give the desired action. So great has this evil become that we often confess to one another that we prescribe less and less, and confine ourselves to a few fundamental drugs, remedies which we think we obtain from reliable sources and give in cases of necessity, leaving our patients to take their favorite compounds of tonics and appetizers on their own responsibility.

If drugs could be treated sacredly, exactly, and conscientiously by the druggists, and by the public, as they are in hospitals, in experimental laboratories, and as physicians themselves treat them, the practice of medicine would be a much more satisfactory profession than it is at present.

We trust that in this particular case the New York Board of Health, which does nothing by halves, will trace this scandal to its source, and further, we hope that physicians and druggists will prove as energetic as are the manufacturers of cereals and baking powders in establishing pure food laws, and will bring the enactment about pure drug laws, that will at least serve as a warning to offenders, and a caution and protection to the trusting prescribers and buyers of drugs.

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FIGHTING TUBERCULOSIS

The imperial health office in Germany has been gathering information and statistics about tuberculosis. Out of one thousand deaths in Germany of persons between the ages of fifteen to sixty, 316 die of tuberculosis alone. The mortality of the whole population averaged 242 per 100,000 yearly, rising in the Bavarian Palatine to 329, in Bremen to 337, and in Hesse to 314. These conditions are even better than in France, Australia, and Russia, but worse than in Switzerland, Belgium, Denmark, Norway, and especially England.

The German health department believes that consumption can be best treated in special hospitals, and now has accommodations for thirty thousand patients. The statistics for 1896 to 1901 showed that, on an average, out of a hundred patients treated 87.7 were dismissed as cured or improved, 8.8 as not better, 3.1 as worse, and that 0.4 died.

This remarkable showing from Germany is a suggestion for the legislators of Minnesota.

The appropriation asked for the establishment of a sanatorium in Minnesota should be cheerfully granted, for it will do as much good as anything the appropriations call for. Minnesota is in many respects an ideal sanatorium for the treatment of consumption. If an institution among the pines is added for special cases or for the control of state cases, the beneficial results will be more satisfactory.

Other states have already taken the initiative, and the statistics showed a decrease in the number of deaths from tuberculosis.

STANDARD OIL MILLIONS

Two years ago Mr. Rockefeller gave $200,000 for a foundation gift to an institute for medical research. During the summer of 1902 the additional gift of $1,000,000 was quietly made. This institute for practical research in medicine and pathology will be without an equal in this country, and unexcelled in any part of the world. Mr. Rockefeller stands ready to finance the institution for any amount necessary to carry on the work. The buildings will occupy four blocks in the city of New York.

The present plans call for a laboratory for investigation in all departments of medical research; the building of a hospital in which special groups of patients may be treated to develop new methods for the treatment of disease; and a medical journal for the promulgation of knowledge will be instituted at the proper time.

Prof. Simon Flexner will be the director of the laboratory. The special aim of the directors will be the prevention and treatment of disease. A series of fellowships, ranging from $300 to $1,000, were granted to a few of the eastern universities.

LONG LIFE AND GOOD HEALTH

The government of Saxony has been investigating the life histories of old people. Seventy-three persons over ninety years of age were the subjects of the inquiry. It was found that the men, twenty-three in number, are or have been married, and all were sons of long-lived parents. They were of medium height, none were bald, most of them had no teeth, a few can read without glasses, and the majority are deaf. The old people in general slept well, they were usually amiable, they used stimulants, some to excess. They used water to wash their hands, abhoring its use elsewhere. Their houses were not aired, nor were their surroundings hygienic, yet they lived, ate, and digested their food, too, but took little exercise, and waited for their end.

How often do we see the same thing in this country under the same or better environment? The number of old people who are over eighty is large; the majority of them are in remarkably good physical condition; and they live an easy vegetative life, free from many cares or responsibilities. They began life presumably with a long line of heredity in which the ancestors established a tough, wiry fiber that was propagated from one generation to another. During the growing period these people jogged along in an haphazard manner, accepting troubles and trials indifferently, throwing their responsibilities away during the hours for sleep, and resuming them with renewed vigor or further indifference. The struggle for existence was not keen, competition was dull, the necessities of life were simple and plain, and the social achievement was not considered in the spirit of to-day. Under such conditions a man should live to be old.

The people of to-day, particularly in the larger towns and cities, are unconsciously drawn into the net of commerce, strife, competition, and social advancement. The hurry and struggle for life, in the present acceptation of the term, brings its worries and wear and tear. Arteries and nerves are overworked until they are incapable of withstanding the strain placed upon them. Breakdowns and loss of function and power bring about a premature senile state and, unless a long period for repair is instituted, the man is a wreck, and dies from some of the diseases of the day.

If the American people could accept and adopt the lazier methods of other races, spend more time away from their work, and could cultivate an indifference that is restful, more of the population would grow old gracefully, that is, they would be healthier, more cheerful, and less irritable; and they would be an example for the coming generation. There are too many instances of irritable, depressed, fault-finding, and disagreeable people among the aged; and too many of the younger set who are travelling too rapid a pace. The result is disharmony, unhappiness, and open or secret longings for separation among the old and the younger old set. There is nothing so ennobling and satisfying as a happy old person. Allowances must be made for the old invalid, whether from natural or avoidable causes, yet this class may, by environment and love, be comfortable and happy in their declining years.

It is all in the fibre, the early environment, and mental discipline.

HEALTH-FOOD HABIT

The professional and expert who devotes his time to devising new names and advertising the virtues of the varied concocted compositions warranted to make people strong, wise, and economical, must draw a princely salary if the promoters of health-foods pay for wear and tear of cortical tissue.

Every magazine, periodical, and newspaper contains a more or less attractive advertisement of some kind of food that is peculiarly adapted to the needs of the hungry, dyspeptic, the hurried man of business, the poor laborer, and the growing child. All of these foods claim to contain nutrients that are easily digested or are predigested with the life-giving and energy-producing qualities that are found when phosphates and proteids are the basis of foods. The public are inclined to accept these assertions in their broadest sense, and the food which presents the most extravagant claims with an attractive wrapper, is for the time the most popular.

When one calmly considers the question of health-foods as illustrated on the outside of a package, the solution is simple: Investigate them from a common-sense standpoint. How is it possible for a cereal health-food to be more valuable than the grains from which it is constructed? Why is it necessary to pay more for compounds than for the original material from which they spring? The only reasons given by the majority of consumers of the all-ready-food, is the rapidity with which it can be placed on the table, and the alluring claims.

It is fair to presume the food companies are in the business for profit, and the temptation to use inferior grade of grains, partially burned grains, in fact any old grains, is strong and irresistible. It has been reported that an elevator fire attracts a buyer for the exposed, damp, or burned grains, which can be converted into packages by previously crushing, heating, and mixing before sending it out for consumption.

Professor Harry Snyder, of the Minnesota Agricultural School, has conducted a series of experiments to determine the value of cereal foods, and the relative value of coarse and white patent flour. Some of his investigations have been recorded in the "Northwestern Miller." The analysis of many of the health-foods shows the differences in chemical composition. Many are deficient in important ingredients, the percentage is far below the advertised claim, and some are actually fraudulent in their statements. The proteids, carbohydrates, the food value per pound as calorics, are less than that found in white patent flour, the latter containing more available nutrients than health-foods, graham, or whole-wheat flour. This statement is based upon careful analysis, and carefully conducted experiments, yet the health-food companies are constantly asserting the value of their products, and are as persistently attempting to undervalue white-wheat flour. Many of these flaky foods are made from middlings, or grits, and contain even less than ordinary food values, yet the people believe them to be all they represent, and consume them and the idea that their health-giving properties are sufficient for growing school children.

Prof. Snyder says: "None of the wheat health-foods are in any way superior in nutritive value to white bread made from patent flours, and many of them are inferior because they are made from wheats that will not make strong flour. About 72 per cent of the wheat cereal is recovered as straight grade flour, and 2½ per cent or so as low grade and red-dog. The bran, middlings, and offal amount to about 25 per cent of the weight of the wheat kernel. These parts are less digestible, and therefore have a lower food value than the portion of the wheat ground into fine flour. The bran, shorts, germ, etc., excluded from fine flour do not contain the digestible nutrients so often claimed."

The Postum Cereal Company, which manufacture the celebrated "grape nuts," claim it to be "a condensed food;" that one ounce is sufficient for an average meal, and "the system will absorb a greater amount of nourishment from one pound of grape nuts than from ten pounds of meat, wheat, oats, or bread."

Grape nuts may be prepared by toasting dry bread, rolling it, and adding syrup or brown sugar. It is therefore a cheap food, sterile, and will not ferment in the digestive tract, and costs about two and one-half cents per pound. The extravagant claims made by the company may be discounted to such a degree as to make the food almost valueless.

"Shredded whole-wheat biscuits," so extensively patronized by church fairs, suppers, etc., fall below the mark, and, if worth thirteen cents a pound on a basis of food value, flour would be worth $25 dollars per barrel.

The various gluten preparations contain practically the same amount of starch and gluten as the best types of flour, and hence they may be harmful for diabetics.

The people who are "Ralstonites" think they are especially favored, yet the analysis of their food-stuffs shows a very low percentage of gluten. The amount of phosphates and nitrates advertised as component parts of health-foods, are usually absent. Fortunately the nitrates are not needed, and the quantity of phosphates will not materially increase the amount of gray matter in the nervous system. If the promotors would feed upon their own food and get the benefits they claim, they might offer themselves as living examples, but they seem to prefer testimonials, usually made to order.

If the public must have health-foods, advise them to eat corn, wheat, oats, or barley cooked properly in proper vessels, and timed to meet the demands of the grain; to be served as a vegetable, not as a dessert, to be salted, not sugared, and to form a part, and not the whole, of the meal. In this way they will get proper food-values, at a reasonable rate, and their grains will be clean and pure. They will avoid the unreliability of advertised articles, and will not become deluded by labels, pictures and useless claims.

Dr. Oliver Wendell Holmes claimed his long life and good health were attributable to his abstinence from health-foods.

The boy who asked his father why these things were called health-foods was told it was because people who were well and strong could eat them with impunity.

SMALLPOX IN THE UNITED STATES

Between June 28 and December 26, 1892, there were reported 15,656 cases of smallpox, with 806 deaths, as compared with 17,496 cases, with 585 deaths for the corresponding period in 1901.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

R. O. Beard, M. D., Secretary.

Stated meeting, Wednesday evening, February 4, 1903, at the West Hotel, Minneapolis; the President, Dr. J. Warren Little, in the chair.

Dr. Harry Parks Ritchie, of St. Paul, offered his inaugural thesis, entitled, "Vaginal Section and Drainage for Suppuration in the Pelvis."

Dr. Justus Ohage, of St. Paul, opened the discussion by stating his appreciation of the paper. He suggested that it had been his custom to drain the abdominal cavity and to precede his drainage by thorough cleansing of the cavity, first with a bichloride solution and later with a normal saline solution. He preferred the former.

Dr. A. W. Abbott, of Minneapolis, endorsed most of the arguments of the thesis, but had to dissent from the author on some points.

In the matter of the pathology of pelvic inflammations, seldom, in old cases, is the presence of bacteria demonstrable either by examination of pus or of microscopic sections. In pure gonorrheal salpingitis,—and he did not believe in the frequent occurrence of mixed infection,—there is to be noted thickening of the mucous membrane, destruction of epithelium, and formation of pockets by adhesions. In streptococcus infections the old fashioned cellular inflammation occurs, while in staphylococcus cases the development of peritoneal pus pockets is to be observed. The bacillus coli is most commonly found in old pelvic abscesses, no matter what the primary infection. In these old cases a considerable time has usually elapsed since the primary infection. It is the most wonderful thing in the world how the effects of pelvic inflammation will subside under suitable treatment. He cited a case of large pelvic abscess clearing up satisfactorily in eleven days and showing at that time simply a small mass of fibrinous exudate present. The mortality in his cases of pelvic inflammation had been nil, with one exception of pulmonary embolism occurring twenty-four hours after operation.

He believed the best method of procedure in a case, say, of gonorrheal infection, to be to allow the subsidence of acute symptoms and then to operate. In cases of puerperal sepsis, early vaginal incision, whether pus is present or not, is indicated. By this policy the salvation of the tubes is often secured.

In tuberculosis abdominal section is desirable; the vaginal operation useless. In appendicitis the abdominal operation is to be preferred, excepting that when pus is present it may be let out, per vaginam, as a temporary expedient. Such a case should always be advised of the probable necessity for a subsequent abdominal operation. In seventeen out of twenty cases reported some time since, ultimate abdominal section has been necessary.

He would disagree with the author of the paper as to the use of the drainage tube. He would never employ it, unless it might be in the mistaken vaginal opening of a purulent ovarian cyst. He believed its use bad surgery. A vaginal section should be thorough if made at all.

The mortality in pelvic inflammation should not be over two per cent.

Dr. Ritchie closed the discussion, thanking Dr. Abbott for his remarks. The early recognition of these conditions, he said, was important. In improved operations, the mortality was practically nil. Treatment must be adapted to individual cases. He defended the use of the rubber tube.

Dr. A. McLaren, of St. Paul, was invited to speak. He agreed largely with Dr. Abbott, excepting as to the early opening of small accumulations of pus. Danger lay in the possible penetration of the peritoneal cavity and the extension of infection. He had formerly been eager in this direction, but had learned caution. He deprecated the use of the gauze-drain as necessitating the re-enlargement of the opening with the fingers. The rubber tube obviated this, and he believed its use perfectly safe and satisfactory.

Dr. J. Clark Stewart, of Minneapolis, read a paper entitled, "Is there such a Tumor as Atrophic Scirrhus of the Breast?"

He answered the question in the affirmative, citing cases in evidence, and describing the genetic relations and the pathologic conditions of such a neoplasm. He raised an inquiry as to the propriety of operation in these cases, emphasizing their chronicity, their slow growth, and relatively low order of malignancy. Considering these qualities and the late development of metastases, he deprecated early surgical interference. He urged that after operation an early recurrence is induced and speedily kills the patient.

Dr. J. L. Rothrock, of St. Paul, opened the discussion upon the paper. He had had, he said, little or no experience with this variety of tumors. He recalled one case at the City and County Hospital, St. Paul, in which both breasts were atrophied and a metastasis of the peritoneum had developed. The patient died, and the autopsy showed carcinomatous deposits in both breasts, as in the peritoneum. He did not clearly recall the microscopic pictures in this case. Since Dr. Stewart admitted that these cases ultimately develop metastases, it would seem that early operation would be justified. He thought that the failure to secure good results from the Halsted operation meant that the Halsted method had not been really followed.

Dr. Arnold Schwyzer, of St. Paul, said that he agreed in the main with Dr. Stewart. Did he find in persons over sixty brawny ripples and small indurations of the breast he would certainly let them alone. He recalled a case of long duration in which an infection of a small lymph node indicated that operation had been undertaken too late. Halsted had said that scirrhus cases are the worst cases to operate upon. He regarded the distinctly atrophic types as simply transitional from the ordinary scirrhus. In the case of the old maid, the scarcity of glandular and the excess of interstitial tissue might be supposed to be normal.

Dr. Abbott described a case similar to those cited and supposedly cured, in which a large involvement of the kidney was ultimately present. He asked if it was not true that these cases are usually so advanced before they are recognized that metastases have already occurred.

Dr. McLaren, of St. Paul, agreed with Dr. Abbott. He described a similar case, of long duration, in whom a metastasis had developed.

Dr. Stewart replied that the point was not of the possible presence of metastases, which are usually of slow growth and low malignancy. Operation, however, usually stimulates their development, and a rapid recurrence kills the patient. It was surprising to see how long these old cases of atrophying breasts would live; he cited cases in illustration. The old dictum that these patients should be let alone should receive more consideration.

Dr. J. W. Little, of Minneapolis, remarked that, clinically, such a picture as these patients presented would suggest that they would live longer without than with operation.

AN UNEXPECTED RETROGRESSION

The advocates of higher medical education in this country have been as greatly surprised as they have been disappointed by the recently published suggestion of President Butler of Columbia University that the college course for the degree of Bachelor of Arts should be reduced from four to two years.

In the discussion of the proposition we are told that a man may become a good enough doctor with only two years in college and four years in a medical school.

There have been many good physicians who had no college training; in fact, we have ourselves known successful doctors who had no training in a medical school, but have always contended that these men would have been infinitely better qualified for their professional work by a liberal training in both the college and the professional school.

We have argued that medicine should be a learned profession in fact, and not a trade. President Butler's suggestion means that the trade feature should be emphasized, and that the medical graduate can do without the broad culture gained by the present four-year course in the school of arts and sciences.

We frequently hear the small college (so-called) described as a blot upon our system of higher education. Such an allegation is not only unwarranted today, but if Columbia decides to grant the degree of A. B. at the end of two years' study, there is not a "small college" in the United States which will not outrank the ancient college which we have delighted to honor.

A concession may properly be made to the young man who lacks the means for securing an eight years' term, by making the senior and possibly the junior year course such as to be co-ordinate with the medical course, and count for his M. D., but the A. B. degree should not be conferred until the second year of the medical course has been completed.—Medical Review of Reviews.

BOOK NOTICES

Clinical Surgery. For the Instruction of Practitioners and Students of Surgery. By A. J. Ochsner, B. S., F. R. M. S., M. D., Professor of Clinical Surgery, Medical Department University of Illinois. Chicago: The Clinical Review Publishing Company.

Of late busy practitioners turn more frequently to his medical journals and less to books than was customary five or ten years ago. Works of reference are at hand and consulted, but not often read or studied as a whole. There are several reasons for this. One is, that just the men from whom we would be most pleased to hear are too busy to look up all of the literature in all of the languages, and too proud to buy it from attachés of the large libraries. It thus happens that many of the works are compilations of the younger men, who have the time to do this, and make a book which shows the great erudition of the author; but does not instruct the reader, because the writer has no experience.

It is therefore refreshing to have a great practical surgeon, with an enormous experience, cut loose from this tradition, and take the reader into his confidence, telling him just how he makes the diagnosis, what he does for the patient in his operating-room, and how he carries on the post-operative treatment in the hospital of which he is chief surgeon.

This Dr. Ochsner has done, and he has given us a book which tells its story in simple, concise form, without a dull page. Any practitioner, whether he be a specialist in surgery or an occasional operator, will be instructed. It is free from padding, and it is modest. The author's individuality is shown in the handling of every subject.

His views on appendicitis are too well known to require comment, and the mortality of his reported cases justifies, in the main, the position taken.

The section on hernia is very complete, and the treatment of femoral hernia, by tying off the sac high up and leaving the canal alone, is original, and the value of the method is proved by clinical experience.

The drainage of empyema by means of tubes drawn through a counter incision is particularly valuable, and will often save resections of the chest-wall.

The treatment of infected wounds of the extremities by elevation with moist antiseptic solutions without extensive incisions, is worthy of notice.

The book is well gotten up. The paper is good, the type clear, and the illustrations illustrate.

W. J. Mayo.

A Text-Book of the Surgical Principles and Surgical Diseases of the Face, Mouth and Jaws. For Dental Students. By H. Horace Grant, A. M., M. D., Professor of Surgery and of Clinical Surgery, Hospital College of Medicine; Professor of Oral Surgery, Louisville College of Dentistry, Louisville. Octavo volume of 231 pages, with 68 illustrations. Cloth $2.50 net. Philadelphia and London: W. B. Saunders & Co.

This text-book, designed for the student of dentistry, succinctly explains the principles of dental surgery applicable to all operative procedures, and also discusses such surgical lesions as are likely to require diagnosis and perhaps treatment by the dentist.

The arrangement and subject-matter covers the needs of the dental student without encumbering him with any details foreign to the course of instruction usually followed in dental colleges at the present time. The work includes, moreover, such emergency procedures as both the dentist and physician may be called upon to perform. For the dental student the work will be found an invaluable text-book; and, indeed, the medical beginner, also, will find its perusal of more than passing benefit.

The Treatment of Fractures. By Chas. L. Scudder, M. D., Assistant in Clinical and Operative Surgery, Harvard Medical School. Third Edition, revised and enlarged. Octavo, 480 pages, with 645 original illustrations. Polished Buckram, $4.50 net; Half Morocco, 5.50 net. Philadelphia and London: W. B. Saunders & Co.

This book is intended to serve as a guide to the practitioner and student in the treatment of fractures of bones, being a practical statement of the generally recognized methods of dealing with fractures. The attention of the student is diverted from theories to the actual conditions that exist in fractured bones, and he is encouraged to determine for himself how to meet the conditions found in each individual case. Methods of treatment are described in minute detail, and the reader is not only told, but is shown, how to apply apparatus, for, as far as possible, all the details are illustrated. This elaborate and complete series of illustrations constitutes a feature of the book. There are 645 of them, all from new and original drawings and reproduced in the highest style of art.

In this edition several new fractures have been described, and an excellent chapter on gunshot fractures of the long bones has been added. The reports of surgeons in the field during the recent wars have been carefully digested, and the important facts regarding fractures produced by the small caliber bullet have here been concisely presented. In many instances photographs have been substituted for drawings, and the uses of plaster of Paris as a splint material have been more fully illustrated. In its new form, the work fully maintains the deserved reputation already won.

PRACTICAL OBSTETRICS. A text-book for practitioners and Students. By Edward Reynolds, M. D., Visiting Surgeon to the Free Hospital for Women; Fellow of the American Gynecological Society, of the Obstetrical Society of Boston, etc.; Former Instructor in Obstetrics in Harvard University, and Senior Physician to Out Patients of the Boston Lying-in Hospital, and Franklin S. Newell, M. D., Assistant in Obstetrics and Gynecology in Harvard University; Physician to Out Patients of the Boston Lying-in Hospital; Assistant Visiting Physician to the Boston City Hospital, in the Department of the Diseases of Women; Fellow of the Obstetrical Society of Boston, etc. Illustrated with 252 engravings and three colored plates. Lea Brothers & Co., Philadelphia and New York, 1902.

To write a good work upon obstetrics an author must have not only a thorough theoretical and practical knowledge of his subject but also the ability to discriminate between the things that are to be said and those that are best left unsaid. Otherwise a book that is admirable in other ways may be made so voluminous that the essential thing is lost among the unessentials.

Drs. Reynolds and Newell have succeeded very well in picking out the right things to go into a work on practical obstetrics. The present volume was planned upon the same lines as a work published some ten years ago by Dr. Reynolds and intended to be an epitome of the practical side of the subject. But they have done more than to put together in a new form a statement of the recognized facts and principles of modern obstetrics, they have decided original matter of their own, including the device of Dr. Reynolds for making an axis-traction instrument out of the common Vienna forceps and his method of employing artificial inspiration in the asphyxiated new-born infant.

A neglected subject in midwifery, the management of delayed labor, particularly in the first stage, is remarkably well dealt with in this book. There are few practitioners of midwifery who have not been harassed by this complication of labor and they will look in vain for help in the average work upon obstetrics. WM. DAVIS.

THE INTERNATIONAL TEXT-BOOK OF SURGERY BY AMERICAN AND BRITISH AUTHORS. Edited by J. Collins Warren, M. D., L. L. D., Hon. F. R. C. S., Eng., Professor of Surgery in Harvard Medical School; Surgeon to the Massachusetts General Hospital; and A. Pearce Gould, M. S., F. R. C. S., Surgeon to Middlesex Hospital; Lecturer on Surgery, Middlesex Hospital Medical School; Member of the Council and of the Court of Examiners of the Royal College of Surgeons, England. Two volumes, Second Edition, Thoroughly Revised with 977 Illustrations in the Text, including many full-page plates in colors. Philadelphia and London: W. B. Saunders & Company.

In the short space of two years a second edition of this admirable work on surgery has been issued. The original work was of such excellence that it early took a leading place among the books of surgery. The two volumes just issued include the advances which have been made in surgery in almost every direction during the last few years.

The chapters on "Surgery of the Kidney," "Surgery of the Spleen," "Surgery of the Lymphatic System," and on "Military and Navel Surgery," have been carefully rewritten, and the whole book has been carefully scrutinized in the preparation of the latest edition.

The book as a whole is of high grade. The contributors are all men well known in this country or abroad. The various chapters, practically without exception, have been written by men especially fitted to write them. The text is readable and it contains the facts one usually wants to know. ARTHUR T. MANN.

Diseases of the Bronchi. By Dr. F. A. Hoffmann, of Leipsic. Diseases of the Pleura. By Dr. O. Rosenbach, of Berlin. Pneumonia. By Dr. F. Aufrecht, of Magdeburg. Edited, with additions, by John H. Musser, M. D., Professor of Clinical Medicine, University of Pennsylvania. Handsome octavo volume of 1030 pages, illustrated, including 7 full-page colored lithographic plates. Cloth, $5.00 net; Half Morocco, $6.00 net. Philadelphia and London: W. B. Saunders & Co.

This, the fourth volume to be issued of Saunders' American Edition of Nothnagel's Practice, fulfils all expectations. The eminent authors of the valuable monographs which comprise this volume had, by their breadth of learning, their exhaustive research, and extensive practical experience, made their essays almost complete as originally written. Nevertheless, the author in the light of recent research, has made numerous valuable additions, so that the American edition represents the present state of our knowledge on the subjects under discussion. Among other things, these additions include new matter on the anatomy and physiology of the bronchi; on foreign bodies in the tubes; on the pathology, bacteriology, and treatment of bronchitis, and the recent researches on bronchiectasis and on eosinophilia in asthma.

Much new matter has been incorporated into the section on pneumonia, including the recent work of Hutchinson and others on the blood and urine in that disease. In the Pleurisy section will be found an account of the latest bacteriologic studies, and references to the work of Morse on the leucocytes in pleurisy, to that of Williams and others on x-ray diagnosis, and to the Litten phenomenon. The work in every particular is thoroughly up-to-date, and no criticism is possible but praise.

REMEDIES FOR INSANITY

I have no specific to offer for stemming the ever-increasing tide of mental degeneration which flows in upon us like a flood. The remedy lies in the gradual evolution of the race, through the dissemination of more correct knowledge of the laws which govern health. There is a lamentable amount of ignorance, or at least indifference, of the laws which govern the propagation of the race. How strange it is that people are so fully alive to the necessity of careful selection in the breeding of the lower animals, and ignore the same laws in the breeding of the human race. Theories have been advanced from time to time looking to the amelioration of this condition.

There is a certain amount of reason and common sense in these theories if they could be enforced, but experience proves that all legislative enactment which interferes with the social customs and habits of society are evaded and ignored.

The true remedy lies in more correct knowledge of the direful effects which follow from ignoring the great natural laws which govern the propagation of the race and the suffering which it may entail on unborn generations. On the other hand, it may be said if there were no weaklings and dependents in the world there would be no field of operation for that altruistic, charitable spirit which is the pride and glory of modern civilization.

A large proportion of the insanity in the world is due to secret vice and perverted modes of living, which drain the vital energies and impair the mental function. The brain is exceedingly complex and many-functioned organ and is capable of extraordinary development along physiological lines.

As the brain is the organ of mind, it expresses itself to its environment in direct ratio to the integrity of its composition and the healthfulness of its function. A diseased brain expresses itself in diseased thought, will and action, which is insanity. All rational methods of treatment must consist in discovering the causes which have contributed to that disordered condition and must be followed by a complete reversal of the mode of living which has provoked it. The patient must be placed in a new environment where discipline is enforced and with a complete surveillance of the habit of life. Many people have the idea that insanity can be cured with medicine. This is a great mistake, it has its place in mental disease as in every other form of disease, but there is no medicinal specific for its cure.

The sheet anchor methods of treatment are labor, recreation and rest, with plenty of fresh air and a liberal *regimen*. A large proportion of patients sent to the asylum suffer from malnutrition and sleeplessness. The first indication of treatment is to restore the nutritive function and induce sleep. When that is done the patient is already on the road to recovery.

"Let me have men about me that are fat,
Sleek-headed men and such as sleep o'nights,
Yon' Cassius has a lean and hungry look,
He thinks too much: such men are dangerous."
—Dr. James Russell in Canadian Practitioner.

NEWS ITEMS

NORTHWESTERN NEWS

Dr. Wesley Smalley, of Hector, has decided to move to Seattle, Wash.

Dr. J. S. Chapin, of Euclid, has gone to Chicago to take a special course.

Dr. J. W. Bell, of Minneapolis, has returned to his practice after a trip to Arizona.

Dr. A. A. Rankin, a recent graduate of the State University, has located at Rushmore.

Dr. J. E. Engstad, of Grand Forks, N. D., starts this week for a trip around the world.

Dr. H. M. Trankle, of Wabasha, a recent graduate of Rush, expects to locate in Idaho.

Heron Lake is to get the Catholic hospital which the people of Windom so much desired.

Dr. R. R. Stoner, of Winthrop, has decided to locate in Minneapolis, and engage in the land business.

Dr. C. J. Beise has moved from Mapleton to Minnesota Lake, and has begun practice in his new field.

The new addition to St. Mary's Hospital at Rochester will cost $40,000, and will be 82x110 feet in size.

Dr. O. M. Haugan, of Chicago, has located in Fergus Falls, forming a partnership with Dr. A. C. Baker.

Dr. Geo. D. Head, of Minneapolis, starts for Europe this week to spend nine months in special work in Vienna.

Dr. H. E. Wunder, of Tower, has decided to erect a new hospital building, his present quarters being insufficient.

Dr. H. N. McDonald, of Minneapolis, has been very low with pneumonia, and is now reported only a little better.

Members of the United Norwegian Church of America have formed a corporation to build a new hospital in Duluth.

Dr. O. A. Burton, of Albert Lea, will go to Vienna in the spring to spend several months in medical and surgical work.

Dr. G. W. Moore, of Hopkins, will take a special course of work in Minneapolis, before beginning practice at Everett, Wash.

Dr. W. W. Brown, of Minneapolis, has located at Cleveland, Minn. Dr. Brown is a graduate of the University of Tennessee.

Dr. Edmund Lalonde, who has been practicing several months in Brainerd, has decided to return to his old field in Eden Valley.

Dr. J. P. Chance, of Royalton, was married last month to Miss Maude Gilbert of the same place. Dr. Chance is a graduate of Hamline, class of 1902.

Dr. M. O. Hunter, who recently located in Groton, S. D., passed the recent medical examination in North Dakota, and will practice in both states.

Dr H. M. Collison, of Montreal, has located in Rugby, N. D. Dr. Collison is an honor graduate of McGill, and has been a year in the Royal Victoria Hospital, of Montreal.

The medical practice bill now before the legislature of South Dakota has been indorsed by a number of local medical societies, and will no doubt become a law. It will shut out travelling doctors.

Hannah, N. D., has a hospital, which is under the charge of Dr. W. Y. Corry. The hospital building has eighteen rooms, and with a trained corps of nurses, Dr. Corry feels that the needs of the county are well supplied.

Dr. V. P. Kennedy, one of the pioneer physicians of Minnesota, died last month at his home in Litchfield, at the age of 80. He was a classmate of the late Dr. Murphy of St. Paul, and was at one time a member of the Dakota territorial council.

MONUMENT FOR RUDOLF VIRCHOW

The German committee in charge of the celebration in honor of Rudolf Virchow's eightieth birthday—Professor Waldeyer, chairman, Professor Posner, secretary—has begun collecting funds for the purpose of erecting a monument in memory of that great and unique man and physician. The undersigned are anxious and ready to receive contributions which will be duly acknowledged.

Frank Billings, president of the American Medical Association, 100 State St., Chicago; Thomas D. Coleman, 505 Greene St., Augusta, Ga.; A. Jacobi, 19 East 47th St., New York City; W. W. Keen, president of the Congress of American Physicians and Surgeons, 1729 Chestnut St., Philadelphia; Wm. H. Welch, 935 St. Paul St., Baltimore.

NORTHWESTERN LANCET

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RETROPHARYNGEAL ABSCESS IN INFANTS, WITH REPORT OF CASES*

By W. T. Adams, M. D.

ELGIN, MINN.

Retropharyngeal abscesses are not very frequent, and occur mostly in young children, but may occur in children of any age or in adult life. They are usually the result of lymphatic infection, but in rare cases may be caused by necrosis of the cervical vertebræ. Subjects suffering from general debility or cachexia are most likely to be affected. The writer's experience has been limited to cases in which the abscesses have followed lymphatic abscesses in the submaxillary region.

The early symptoms are said to be similar to those of simple pharyngitis; but, unfortunately, in young subjects there is very little in the symptomatology upon which to base a diagnosis until the abscess assumes considerable size. Dysphonia and dyspnea are mentioned as symptoms. Owing to the increasing size of the abscess, the posterior wall of the pharynx is pushed forward so as to impinge upon the larynx and epiglottis, causing a dyspnea the character of which is almost diagnostic. Like dyspnea in most cases of mechanical obstruction of the trachea or larynx, the act of inspiration and expiration is rendered equally difficult, but there is a quality of tone to the respiratory sounds, due to the obstruction being so high up in the respiratory tract, that is different from sounds caused by obstructions in the trachea. The dyspnea increases as the abscess increases in size, until in advanced cases the life of the patient is placed in great jeopardy, and death from asphyxia may result if the dyspnea is not relieved.

Inspection as a means of diagnosis is of varying importance, and so, also, is palpation, according as there co-exists gland swellings or gland abscesses that are independent of the retropharyngeal abscess. Draining the more superficial abscess with the hope of relieving the dyspnea, will usually be disappointing.

Visual examination of the throat will usually give negative information, as the abscess is located behind the dense fascia and tissue forming the pharynx, and very little can be seen in the child's throat to aid in diagnosis.

As a means of positive diagnosis in suspected cases,—and all cases of dyspnea affecting both inspiration and expiration with symptoms of infection about the throat, not otherwise accounted for, should be considered as suspected,—the writer desires to mention digital examination of the throat.

To make a digital examination of the throat, I have found the following method very satisfactory:

The operator should stand behind his patient, who sits on the nurse's lap, holding the head with the chin slightly elevated; with the left hand, he should pass the index finger of the right into the mouth, the palmar surface directed upward and backward, glide it carefully beyond the soft palate, then by a dextrous movement the entire pharyngeal surfaces can be swept over, and any departure from normal condition can be easily recognized. If an abscess exists it will present an area of more or less fullness with a marked degree of tension, varying of course with the size of the abscess. Fluctuation may be detected if the abscess is large and full, but a fullness with a marked degree of tension, even without fluctuation, with a history of infection and dyspnea as above stated, should be sufficient basis for a diagnosis of retropharyngeal abscess. In like manner other abscess of the throat may be detected.

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*Read before the Southern Minnesota Medical Association, April 7, 1902.

The writer would emphasize the importance of a carefully conducted digital examination of the throat in all cases of dyspnea, as mentioned above, in infected throats of children that are not otherwise accounted for, because the early detection of the abscess and proper treatment rob it of much of its gravity.

Treatment.—There is but one rational course to pursue, and that is the early evacuation of the abscess. This is best accomplished by passing a sharp-pointed bistoury or tenotome, guarded by the index finger of the left hand, through the mouth directly into the abscess, making a free perpendicular incision, as close to the median line of the pharynx as the location of the abscess will permit, thus avoiding points of danger from the incision. When the incision is made, the patient should be quickly inverted, to favor drainage away from the larynx. If the abscess is large, the patient is in great danger from the pus aspirating into the lungs and causing asphyxia and later septic pneumonia; and every effort may be required to promote respiration. Repeatedly wiping the throat with swabs of cotton will not only remove quantities of pus, but will induce efforts at vomiting, which will aid materially in clearing pus from the trachea and larynx.

Case 1.—S——, eight months old, a robust boy baby. Submaxillary gland became infected on right side. After some weeks I was consulted; the gland was carefully opened and drained. The glands on the opposite side of the neck formed abscesses, and were likewise drained. A marked dyspnea of the type described above had developed, which was not relieved by draining either abscess. The little patient gradually sank down, and died in a few days of asphyxia and exhaustion. The post-mortem examination by taxis revealed the existence of an immense retropharyngeal abscess, which, had I examined the throat with the finger as described above, I would have detected, and possibly his life might have been saved.

Case 2.—B——, a boy baby, about fourteen months old, had a submaxillary abscess of right side, which was opened and drained January 10, 1902, by a neighboring physician. Immediately swelling on the left side followed with general swelling of the entire cervical region. There was no sign of recovery, but a persistent septic fever continued, and gradually a marked degree of dyspnea, of the character above described, developed. I was consulted about the middle of February, and diagnosed a retropharyngeal abscess, and urged an immediate operation. The family being averse to surgical operations, consulted two other excellent physicians who, upon examination, decided that there was no cause for operation. Had they made a digital exploration of the throat, they would have given a correct diagnosis.

Two weeks later I was summoned in haste to the case, and found the baby nearly dead with asphyxia and exhaustion. I did the only thing left for me to do, which was to freely incise the abscess. This I did in the manner above described, making a bold, free incision. The pus came in such overwhelming quantities that the mouth, nose, and throat were one flood of pus. By two hours' desperate work with swabs and artificial respiration, in the manner above described, I saved the baby's life. Happily, recovery was prompt and complete, and full vigor of health was completely restored.

I desire to note the condition of the throat at the time of my first examination in February, and the one made two weeks later. At the first examination the mass felt to be about the size of a twenty-five-cent piece. At the last, the size and shape were about like half a hen's egg. The amount of pus discharged proves that the burrow underneath the fascia must have been extensive.

Let me emphasize the importance of early diagnosis, and, once a diagnosis is made, of an immediate operation, thus eliminating the very grave condition of removing a large amount of pus over the breath-pipe. Permit me also to note the fact that the last case above reported had been infected from January 10th until the first of March, and that immediately upon drainage of the abscess, health was restored. Obviously, an early diagnosis and operation would have saved much of the long period of suffering and danger.

RETROPHARYNGEAL ABSCESS—TWO CASES

By Edward J. Brown, M. D.

MINNEAPOLIS

These cases are reported simply to emphasize the fact that such cases are not so very rare, and, for the most part, not so formidable as they are generally considered. About the time of my first case a foreign writer reported a case operated upon by an external incision in the neck, and advised that such should be the operation of election in those cases, an operation so delicate and formidable that only a skilled general surgeon would be equal to the emergency. The comparative ease with which my two cases were managed, leads me to question the wisdom of that recommendation.

Case 1.—A male child, six months old, was seen in April, 1893, in consultation with Dr. S. E. Farnsworth of this city. The child had been ill four weeks with double tonsillitis, accompanied by swelling of the glands at the angle of the jaw. Those swellings had now abated, but for the past few days there had been much trouble with breathing and swallowing. Dr. F. had made a probable diagnosis of abscess, which I was able to confirm. The distinctly fluctuating swelling began at the level of the tonsil, and extended downwards 1½ to 2 inches. Two days later I opened the swelling with a guarded bistoury, using my left index finger as a guide. The child was promptly turned on his face, and the pus removed from the throat as far as possible with finger and napkin, at the same time expressing the contents of the lower part of the abscess. The child was badly nourished, weak from its long illness, and altogether in bad shape, and though the operation was apparently well borne Dr. F. was called six or eight hours later and found him in a nearly fatal collapse. I assisted the doctor in expressing the pus the following evening. Nine days after the abscess was opened it had closed with only slight thickening of the tissues remaining.

Case 2.—Annie S——, three and a half months old, was brought to my office, January 3rd of this year, with the history of having been ill six weeks with lung fever. She was breathing badly, and the attending physician made a diagnosis of adenoids. Examination showed a hard, tense swelling, in which fluctuation could not be positively made out, at the level of the tonsil and to the left of the median line. The tonsils were not greatly enlarged and no swollen glands were noted. Temperature was 101.3°, and the general condition was good. On the 4th, after the use of cocain, I depressed the tongue, and opened the abscess with a guarded bistoury. The child was then turned forward, and considerable pus evacuated without especial difficulty. Jan. 5th, a slight amount of pus was evacuated by pressure; temperature, 102.5°. Calomel was given, and on the 6th the temperature was 104°, but as there was no marked swelling over the site of the abscess, I was content with washing the nose and throat, and administering small doses of aconite. Three days later, the temperature was normal, and the child was doing well.

In this case the abscess was not so far advanced as in the first. The tissues over the cavity were much thicker requiring a deeper cut, but the result justified the early incision.

These cases were undoubtedly suppurating glands in the retropharynx, and for such cases it seems hardly possible that any more severe operation could be justified.

Of other forms and especially those resulting from spinal caries I have no opinion worthy of expression.

Any reader who is interested in this subject will find in the Jour. of the Am. Med. Assn., Jan. 31st, a valuable paper by Dr. John Lovett Morse of Boston.

TREATMENT OF TYPHOID FEVER*

By H. L. Staples, A. M., M. D.

Professor of Clinical Medicine, University of Minnesota

MINNEAPOLIS

Under the prophylaxis of typhoid fever it must be emphasized that great caution should be employed by individuals and municipalities in the supply of food and water. Cities are infected through their general water supply, and villages by wells and brooks; as, for example, the village of Lausen, quoted by Liebermeister, where 130 out of a population of 800 were attacked in two months through the medium of an infected brook. A pure water supply has in many instances caused typhoid practically to disappear even in so large a city as Munich, where at one time it was endemic. The evidence gathered from the wars with Spain and in the Transvaal clearly demonstrated that camp food used as a trotting park for flies was a most prolific source of infection. Milk, butter, oysters, ice, uncooked vegetables,—such as fruit, lettuce, celery, tomatoes,—may all become contaminated, and be a source of danger. The evidence of air-borne typhoid is clearly established according to Quill of Ceylon and Vaughan of Ann Arbor. Suspected water should invariably be boiled when possible. Parks and Riedal have demonstrated that one grain of sodium bisulphate in a pint of water will destroy the bacilli after five minutes' contact. This is a harmless salt and is not laxative, except when used in a large amount. The urine and fecal matter are the media by which the bacilli leave the body. The urine of typhoids contains bacilli in nearly all cases, and these may persist for months. Guyn has estimated in some cases 500,000,000 to a cubic centimeter. The best disinfectant is found to be mercuric chloride,—one volume of urine to 1-10 to 1-15 volume of a 1-1,000 solution. Richardson has advocated the administration of urotropin during convalescence, 5 grains three times a day.

Fecal matter should be disinfected with corrosive sublimate or equal parts of milk of lime. If buried without such action the bacilli will remain active for months, and grow to the surface like fungi, thus contaminating water and vegetables. The nurse and physician should use the most scruplous care about cleanliness, and maintain constant disinfection. The poison remains active for a considerable time and may be transported to a distance. Clothing has conveyed the disease as in the case of German recruits who donned the uniforms of typhoids sent to the hospital. Careful attention must be paid to the linen and night dresses, which should be placed in a carbolic acid solution and afterwards boiled. Articles of little value, such as mattrasses, pillows, and old napkins, may be burned. After the patient has recovered the room should be thoroughly disinfected with formalin or the wood-work scrubbed with soda and water and a 5 per cent carbolic solution.

Recently a method of vaccination against typhoid has been carried on in the English army on a large scale. This consists of a bouillon culture of bacillus typhosus of high virulence, heated until all the organisms are dead. 1,700 were inoculated at Ladysmith, and only 2 per cent were attacked, with a mortality of .46 of 1 per cent. A late report gives 200 inoculated, three cases and no deaths.

Various investigations and experiments have been made in the way of specific treatment, but without positive results. The claims of a few enthusiasts have not been confirmed. A well-appointed hospital is best for rich or poor where it is available. The room should be sunny, but not too brightly illuminated. It should be well ventilated and kept at a temperature between 65° and 68°. In winter the air may be moistened by vessels of water in the room. Two beds are advantageous, one for the day and the other for the night. A warm bath at a temperature of 95° should be ordered twice a day. The hair should be cut short, and in males the face clean-shaven. This ought to be made imperative in charity hospitals.

Diet.—Milk still remains the standard food with most observers, yet we notice an increasing tendency to add to our dietary, and the figures of Fitz show a slightly less mortality where the patients were on a liquid and soft solid diet than on milk and broth alone. He concludes that soft solid diet rather lessens the tendency to intestinal hemorrhage. In ordinary cases eggs, raw or well beaten with milk or very soft boiled, custard, junket, ice-cream, wine jelly, arrowroot, corn-starch, tapioca, milk toast, baked apples and cream, beef juice, and animal broths may be permitted. Chicken broth admixed with a few well-cooked rice granules, is very appetizing to some. I do not believe in giving much amylaceous food until convalescence is established. Eichhorst advocates an exclusive milk diet, and he had but 64 relapses in 1,154 cases. Milk should always be diluted with water (barley water); or, when convenient, Vichy Celestins water makes an admirable dilutent. The formation of large curds is thus obviated. In children I have always adhered rigidly to milk, which may be peptonized if the stomach be irritable. Lemonade and orange juice may be given if the bowels are not loose. Whey is useful in some cases of intestinal hemorrhage or distention where it is feared that milk-curds will aggravate the complication. It is quite probable that benefit is derived from its use. Soluble beef is often useful. In case of great feebleness peptonized milk may be given by the rectum, 3 or 4 ounces at a time.

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*Read before the Hennepin County Medical Society, March 2, 1903.

A plentiful amount of water must always be allowed, to which a little Rhine wine or claret may sometimes be added. Cold weak tea is of assistance where the intestinal canal is irritable. Milk well shaken in a bottle until it is sparkling is sometimes more readily taken than when given the usual way.

MEDICINES.—There are two remedies which I have used for years, and I believe they are as good as any. In children and frequently in adults hydrochloric acid combined with Fairchild's essence of pepsin is undoubtedly of some benefit. There is a deficiency of the acid, and it is gratefully taken. The other is silver nitrate administered in one-quarter-grain pills every six hours. It is given for its local action on the mucous membrane, as in gastro-intestinal catarrh, and surely modifies excessive and troublesome diarrhea. There is also a psychical benefit: the patient is taking something, and it follows out the injunction of Hippocrates, "Do no harm." A recent writer has suggested that the motto, "Let the patient get well," be attached to the head of the bed to avoid pernicious and harmful medication.

All antipyretics, disinfectants, and antiseptics are harmful, and should be prohibited. Acetanilid is a direct cardiac depressant, and destroys blood-corpuscles faster than the disease. These coal-tar derivatives may cause cyanosis or collapse, and positively prevent the free elimination of the toxins of the malady. Many drugs administered are prone to produce nephritis, or increase the already pre-existing inflammation.

The Woodbridge treatment is worse than useless. He personally treated 38 cases at Ft. Myer, and lost four, or 10 per cent; at the same time 9 per cent of the cases in the other wards died.

Salol has been a favorite with many, often given in massive doses. Let us study the chemistry of the drug. It is a compound of sixty parts salicylic acid and forty parts carbolic acid, and is decomposed by the pancreatic juice into these two substances, while salicylic acid is derived from carbolic acid by treating it with caustic soda. Now, many patients have withstood this preparation, the doctor, and the disease; but do you want yourself, wife, or child fed with this drug while struggling with a severe typhoid?

Furbringer has warned us that drug nephritis is very common, and he states that he has often observed an intense nephritis from the use of carbolic acid even as an antiseptic dressing. In case of a kidney swollen with micro-organisms he says: "We are very much opposed to large doses of salicylic and carbolic acids, which can only further injure the affected kidney and have no affect on the bacteria." We must remember that typhoid fever is not a disease of the bowels. It is hardly a systemic disease at first. It is an infection caused by the entrance of a specific micro-organism into the tissues of the body. These may exist in great quantities in the spleen, liver, kidneys, blood, gall-bladder, and lungs before a positive diagnosis can be made out. We may have typhoid without intestinal lesions at all. In the light of these facts it is a surprise that physicians can be credulous enough to believe that half-drop doses of carbolic acid or the administration of any other antiseptic can have any effect on the malady. Shakespeare's remark, "What fools these mortals be!" fittingly applies to those who have wasted some brains and more ink in advocating the doctrine of intestinal antisepsis.

TREATMENT.—The best accepted treatment is hydrotherapy. James Currie, an English physician, employed cold douches over 100 years ago, and his plans were adopted by many distinguished Continental physicians, such as Trousseau in France and Niemeyer in Germany. Brand merely revived and systematized an old practice. The details for carrying out the full bath treatment are so familiar to most of you that a little time in description will suffice. When the temperature reaches 102.5° to 103° the patient is given a tablespoonful of whisky and hot water, and is placed in the tub by the nurses. A cold compress is usually applied to the head. No effort is made on his part, except assisting in the friction which is constantly carried on. The water should cover the patient to the neck and be kept continually in motion. The water temperature is gradually lowered from 90° to 70°. The usual duration of the bath is about 15 minutes. The chief action is to maintain the vigor of the circulatory system that we may provide sufficient resistance to the typhotoxins. If the temperature falls and the pulse becomes enfeebled we do harm rather than good. The reduction of the temperature is never so important a factor as the stimulating effect upon the heart and nervous system. It is not necessary to wipe the body dry on removal from the tub. The evaporation is pleasurable; it continues to reduce the temperature, and sleep is promoted by quiet.

Baths are not necessary in case of children, and are as a rule not well borne in patients at the ages of fifty years or even less. Fat persons withstand typhoid badly and baths worse. The tendency to cardiac weakness, especially myocarditis, in such cases is much greater than supposed. They are contraindicated at the first appearance of intestinal hemorrhage and peritonitis; also where the heart is weak, and in case of lung disease of any severity, in phlebitis, and in case of alcoholics. In suppurative inflammation of the middle ear the orifice should be plugged. The apparent slight increase in the percentage of cases of hemorrhage and perforation may be due in part to careless handling. Some do not tolerate the baths well, for which no definite reason can be given. In directing this valuable therapeutic expedient it requires the exercise of much common sense and less attention to temperature variations. In children and adults where the baths are not indicated, cold sponging or packs, baths of luke-warm water, ice-bags to the head, or over the precordium when the heart's action is greatly accelerated, are beneficial. In old people a warm coil acts better.

I have long ago abandoned discussing the food value of alcohol and its further beneficial effects in typhoid fever. All medical writers of prominence advocate its employment. In all cases of moderate intensity where stimulants are well tolerated I usually begin with small doses of old whisky, always diluted about the second week—sometimes so small an initial dose as one teaspoonful every four hours. As the pulse becomes more feeble and often dicrotic, this is alternated with strychnia, 1-50 of a grain, always is administered every two hours. The doses are gradually increased until in severe cases one ounce of whisky and a 1-20 of strychnine are given hypodermically, so that a gentle stimulant given every four hours alternately. In grave cases camphorated oil may be added hypodermically, a half a dram every two hours. Digitalis, I am delighted to say, is being gradually abandoned in fever. It is a dangerous remedy, and should be employed in rare instances only. The wet pack is often efficacious in lowering persistent high temperatures. The patient is wrapped in a folded sheet, and this is kept wet with cold water.

Excessive diarrhea is controlled by withholding milk for a short time and giving thin broths, albumen water and whey and weak tea. Opium suppositories, and opium and bismuth by the mouth constitute the medication.

Constipation is best treated by enemata of warm water every two or three days. Very rarely a small dose of castor oil may be employed. All purgatives must be avoided.

Tympanites is benefited by the baths and gentle massage. Sometimes a change from the milk diet is indicated; whey or broths may be tried. Turpentine, internally and in the form of stupes, is a time-honored remedy of overestimated value. A long rectal tube introduced as far as possible may give relief where the gas is in the colon. Marked tympanites indicates a severe intoxication, and such patients usually die, especially if the symptom is present early in the disease. Puncture is dangerous. Intestinal hemorrhage demands absolute rest upon the back, elevation of the foot of the bed, and a small ice-bag over the lower abdomen. Food should be forbidden for a day, and cracked ice or cold tea be given in small amounts. Peptonized milk or whey may be commenced on the second day, given in spoonful doses every hour or two.

The only drug of positive value is morphine administered hypodermically, a full dose, ¼ of a grain at first followed by ⅛ of a grain in three or four hours if the hemorrhage is not checked. Ergot and digitalis increase the arterial pressure, and are worse than useless. Tincture of ferric chloride and other styptics disturb the stomach, may cause nausea, probably are of no value, and have long been abandoned by careful observers. I have not had marked success with adrenalin. In case of collapse salt solution, by hypodermoclysis frequently repeated, is indicated. I have had two instances for experimentation with gelatine solution, and would not recommend it on account of danger of tetanus; one case was apparently improved. One of my patients had 18 distinct hemorrhages and made a good recovery. Local tenderness, colicky pains fixed in one spot, which stay, muscular spasm and rigidity and change of respiration from abdominal to thoracic in most cases indicate perforation. Tympanites is also an early symptom.

McCrae has shown that pain may exist in many other complications, and in a certain per cent of perforations no pain is present. Distention represents more the peritonitis which quickly follows. However, pain is the most constant symptom and may be present several hours before the perforation occurs; vomiting is also of frequent occurrence. This complication happens in about 3 per cent of typhoids, and when present demands immediate operation in suitable cases. The attendant who constantly has these cases in charge is the one to make the diagnosis and decide as to the feasibility of operating. Extremely weak and moribund patients should be let alone, but when the vitality is fairly good a small percentage may be saved. Women show twice as favorable results in perforations operated upon.

As regards operation for perforation the report of Briggs at Cleveland may be instanced. Six cases were operated upon, four died, one had no perforation and one recovered after closure of the opening in the bowel. Had the exploratory case died where no perforation existed the scale would have balanced. As the last two feet of the ileum are usually involved the incision may be made in the right lateral location, or over the point of greatest tenderness.

The blood-count is unreliable and not to be depended upon. Grave cases may show no leucocytosis while an infected gland or some other inflammation, pneumonia, for instance, may exhibit it to a high degree.

Two points were demonstrated: that local anesthesia should be employed and silk sutures used instead of catgut, which may loosen or absorb. I like this report because it has the earmarks of honesty. Many would have gone into rhapsodies over the case that recovered and not mentioned the case where the operation was made on a wrong diagnosis, or the four that died.

Chiari found the typhoid bacilli in the gall-bladder of 19 out of 22 patients who had died of typhoid fever. The bile becomes infected through the biliary passages from the duodenum, or through the portal circulation, chiefly the latter.

Auerbach obtained the bacilli from the blood during life in seven out of ten patients. The gall-bladder probably always contains bacilli and is frequently inflamed. Most cases recover and demand no attention. When the distention is marked perforation may occur and without operation all die. These cases must be carefully watched and when necessary the bladder should be opened. Acute pain and tenderness in the right hypochondrium, the presence of a tumor and leucocytosis should cause us to think of suppurative cholecystitis. A few years ago I had a typical case, but failed to open the gall-bladder, as it was not then taught, and my patient died suddenly from rupture.

Where we have a scanty albuminous urine I have found advantage in the saline solution given by the rectum. It is noteworthy how the urine increases, and the pulse and general condition improve by this simple expedient. The bladder must be watched for over-distention and evacuated at regular intervals. The nervour symptoms are combated by the various measures of hydrotherapy, baths, ice caps and Leiter's coils, Dover's powder or sodium bromide is sometimes advantageously employed. Never give any of the coal-tar products or chloral. A little hot toddy at night often produces sleep. In suppurative ear complications if recognized sufficiently early the membrane should be punctured, but unfortunately the discharge is usually the first indication of the trouble. Cleanliness and boric acid irrigation are the subsequent routine treatment.

Bed-sores should be prevented by frequent change of bed linen, bathing the reddened surfaces with alcohol and warm water and the use of air or water cushions. When they appear which should be very seldom the avoidance of pressure and antiseptic powders are best.

Hiccough is sometimes very troublesome. Counter-irritation, Hoffman's anodyne, musk or morphine usually controls. Camphorated oil used hypodermically and repeated every hour is recommended by Tyson.

Epistaxis can be controlled by adrenalin, or if severe by plugging the posterior nares.

Phlebitis usually in the form of thrombus of the femoral vein is treated by rest, slight elevation of the limb and ichthyol two to four drams and lanoline one ounce.

Extremely great care in handling the limb must be exercised for fear of breaking the clot.

Lung involvment is best managed by cold bathing, friction, change of position in bed, dry cups to the chest and attention to the cardiac weakness.

Expectorants are not beneficial.

Vomiting demands a restriction of diet to the simplest forms with minute doses of calomel and soda, cocain, dry champagne, and counter-irritation. A severe form indicates profound intoxication and in some cases which I have observed, well marked acute nephritis, with uremic symptoms was present. These cases nearly all die and little can be recommended with confidence. Warm packs to promote diaphoresis may be of assistance.

Peripheral neuritis is sufficiently frequent to demand a few words. I have recently had a facial paralysis in a boy eight years old subsequent to a mild typhoid. Recovery is the rule in young persons. Severe and extensive palsies may not fully disappear. Massage, active and passive exercise may be employed, also electricity for amusement. Post-typhoid periostitis demands careful attention and prompt and thorough removal of dead bone when it develops.

The typhoid spine is usually of hysterical origin and is thus treated. Some of the cases are no doubt perispondylitis. All forms of insanity, such as acute mania, confusional and stuporous insanity, pseudo-paresis, and melancholia may arise. These usually demand hospital care and treatment.

The plan of the diet during convalescence is a much discussed subject. Some advocate solid food as soon as the temperature becomes normal.

We must remember that we have ulcers which are slow in healing often with a thin peritoneal floor for the base, and too great care cannot be exercised.

Osler instances death from a mutton-chop, and Tyson the same result from reaching out for a book, a peritoneal rent occurring through the ulcer floor.

For the first afebile week only milk and some solid food should be allowed as during the fever, but the quantity may be increased; during the second week if all continues well a soft boiled egg, baked potatoes, rice, stewed chicken, broiled whitefish and trout, tender bits of roast lamb or beefsteak may be permitted. After this a regular diet can be gradually assumed, but uncooked vegetables and fried foods must be denied for a long time. Mental and physical efforts are frequently allowed prematurely, thus establishing a foundation for future invalidism. One of my patients had a severe relapse with no assignable cause except distressing news transmitted to her after the temperature had become normal.

The seashore and mountains at suitable seasons are most excellent tonics for those with sufficient means.

INFANT FEEDING

Ernest B. Emerson (Boston Med. and Surg. Jour., December 4, 1902) says that in the artificial feeding of infants a failure of the child to gain properly in weight is an indication of insufficient sugar, provided the other elements are in proper proportion. An excess of sugar produces colic of thin, green, watery stools. A harder and dryer condition of the stools than normal indicates too low fat percentage. Vomiting or regurgitation of food an hour or two after nursing indicates an excess of fat. The passage of curds in the stools points to an excess of proteid.

THE SYMPTOMS OF ACUTE MILIARY TUBERCULOSIS OF THE LUNGS, WITH REPORT OF A CASE*

GEO. DOUGLAS HEAD, M. D.

Professor of Clinical Medicine and Microscopy, University of Minnesota

MINNEAPOLIS

The symptoms produced in an acute infection of the lungs by the tubercle-bacillus depend in part upon the nature of the underlying pathological lesions and in part upon the acuteness with which those lesions are developed. Clinicians recognize three rather well defined clinical types.

In one group can be classed those cases which begin abruptly with a chill, rapid rise of temperature, pain in the side, cough with mucoid or rusty sputum, and the physical signs of consolidation of the affected lung. This is called acute pneumonic phthisis, or the pneumonic type of acute pulmonary tuberculosis, the latter term, as Fowler[1] suggests, being preferable. Elting[2] in his description of this type excludes the definite chill as one of the cardinal symptoms. It is many times diagnosed as lobar pneumonia, and only when the crisis fails to appear, the patient emaciates, and bacilli are found in the sputum, is the correct diagnosis made.

In a second group of cases the tubercle-bacillus produces clinical symptoms and physical signs which simulate at the start a bronchopneumonia. Persons in poor health and children are the subjects of this form of the infection. It may develop insidiously with fever, cough, anorexia, pain in limbs, and general languor, or with cough, fever, and repeated chills, or with sudden hemoptysis. In most cases within a week after the onset, the fever becomes high, the cheeks flushed, the pulse rapid, and night sweats appear; crackling and sibilant râles are heard at the apices or over one or both lungs; the patient coughs up mucopurulent sputum, usually containing tubercle-bacilli, loses rapidly in weight, develops delirium, has a dry tongue; and in the course of two or three months succumbs to the disease. In some cases of this type the symptoms abate, and the patients develope subacute or chronic tuberculosis of the lungs.

It is, however, to the symptoms encountered in a third group of cases, in which the tubercle-bacillus floods the lungs with great numbers of small miliary tubercles, that your attention is particularly directed in this paper. This type, called the miliary type, of acute pulmonary tuberculosis, occurs usually as a part of a general tubercular infection or as a terminal event in a previously latent or chronic form of the disease. It is as a rule very acute in its course, and produces a train of symptoms differing in important particulars from the pneumonic or bronchopneumonic forms of the disease.

Acute miliary tuberculosis of the lungs, begins usually with malaise, loss of appetite, headache, cough, fever, and the physical signs of bronchial catarrh. However, in a case recorded by Fowler[3] the disease began with a profuse and fatal hemoptysis. The patient was a child of three years, and the hemoptysis was due to the rupture of an aneurysm which had formed in a cavity produced by the breaking down of a caseous patch.

An acute onset with high fever is sometimes encountered, as in a case observed by Lynch[4], but a chill in the beginning is very unusual. In the writer's case, below recorded, the onset was gradual with malaise, loss of appetite, cough, cessation of menstruation, fever (gradually increasing), night sweats, and fainting attacks. The onset of the disease is not distinctive, and unless the cyanosis develops early and is marked, or bacilli appear in the sputum, it is likely to be mistaken for typhoid fever with bronchitis, or, in children, bronchopneumonia.

Our case was diagnosed as typhoid fever by the physician who first saw the case, but on the fourteenth day when it came under the writer's care, it gave a clinical picture unlike typhoid fever and more like bronchopneumonia.

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*Read before the Minnesota Academy of Medicine, March 3, 1903.

FEVER.—Of the various symptoms fever is usually present from the onset. For a few days it may scarcely be noticed; then it gradually rises, and continues high with slight morning remissions. In some of the cases, especially those of acute general tuberculosis with lung symptoms, there may be no fever. (Reinhold[5].) On the other hand, cases are encountered in which the maximum temperature occurs in the morning. (Findlay Vol. XXI, Trans. of Clinical Society of London.)

In the writer's case the temperature remained high, 102°-104.2°, from the 13th to the 18th day; then followed four days in which there was some fall in the temperature curve (101°-102.5°), to be followed near the close by a second rise.

CYANOSIS.—All writers agree that cyanosis, more or less pronounced, is one of the striking and distinctive symptoms of this type of acute pulmonary tuberculosis. It is present in a large percentage of the cases and assists in differentiating the miliary from the pneumonic and bronchopneumonic types and also from typhoid fever. It appears early, is at first slight, and can be noticed on the lips and under the finger nails. Later it becomes more pronounced, and the cheeks and lips are blue. Toward the close it is the most striking feature of the disease. In our case the blue finger-tips and lips was noticed on the first visit (14th day), and continued with increasing intensity until death. Four or five days before the end the cyanosis became so extreme that the color under the finger-nails was almost black, and the cheeks and lips blue.

DYSPNEA.—Dyspnea is also a prominent symptom in this type. In our case it was complained of by the patient from the very beginning, and could be noted at all times. The respirations were rapid (30-40 to the minute), and were made with a great effort during the last four days.

COUGH.—The cough, while usually present in most cases, is not a pronounced symptom. It may be entirely absent, or so slight as to fail to attract attention. The sputum is scanty and mucoid, although some cases expectorate a bloody or mucopurulent sputum. In the case here reported the cough was a minor symptom, and was not complained of. The sputum was very scanty, scarcely enough being secured in twenty-four hours to examine for tubercle-bacilli. It looked like saliva, and contained small numbers of tubercle-bacilli on every examination.

Of the other clinical symptoms: the pulse is rapid (120-150 in our case); sweats at night are usually present; the patient loses rapidly in weight and strength; delirium appears relatively early; the tongue becomes dry; sordes accumulates on the teeth; the patient lies unconscious, with eyes half open, and dies in coma.

One clinical feature present in our case which we have not seen mentioned, was the extreme, high-tensioned nervous state, which the patient exhibited at all times. This was accompanied by pronounced tremor of the finger-tips.

PHYSICAL SIGNS.—The physical signs of the miliary type of acute pulmonary tuberculosis are those of a diffuse bronchitis or a bronchopneumonia. Pronounced dullness is rarely met with. Tubular breathing and increased tactile fremitus are absent over the affected lung. One hears in the affected area fine bubbling or crackling râles, with or without sibilant ronchi. In some cases, if the development of the tubercles is rapid, no râles are heard in the lungs. (Fowler.) In the writer's case the physical signs were those of a bronchopneumonia involving first the base of the right lung, later the whole right lung, still later the base of the left lung, and finally the whole left lung. At one time during the course of the disease the râles in the right lung partially disappeared only to reappear near the close.

Of the other organs of the body nothing suggestive was noted in our case. The spleen was not palpable, the urine contained albumin, but no casts. The leucocyte count was 17,500 on the 15th day of the illness. This does not correspond with the counts made in most of these cases.

Miss C——, aged 20 years, American, unmarried, and living at home, was in good health until two weeks prior to March 4, 1899, at which time she began to cough, to have fever, sweat at night, to lose her appetite, and while about each day she continued to lose rapidly in strength.

The physician whom she consulted diagnosed her case as typhoid fever, but did not put her to bed. On March 4, 1899, she was first seen by the writer. The girl gave a good family history: mother living and well; father dead of stone in bladder; two brothers living and well; one sister then living and well, but now dead of tuberculosis of kidney. When asked where she felt bad she pointed to her chest, and said that her heart beat fast, and that she had had many fainting spells during the last few days. She was sitting in a chair, and was breathing hurriedly and with an effort. Her face, lips, and finger-tips looked blue, and she seemed in a highly nervous state with pronounced tremor of her finger-ends. Her temperature was 102.5° in the morning; pulse, 120; tongue, white coated; bowels, regular; spleen, not palpable; no rose spots on abdomen. Nothing suggestive was discovered until the lungs were examined. Here, over the base of the right lung, could be heard many fine crackling and a few sibilant râles on deep inspiration. There was no marked dullness. No tubular breathing. No increased fremitus in this area. The left lung normal. White count was 17,500. The patient coughed little, and raised only a thin mucoid-looking sputum.

In view of the absence of rose-spots and enlarged spleen, the presence of marked cyanosis, dyspnea, and leucocytosis, uncomplicated typhoid fever was ruled out. The cyanosis especially was marked and unusual. The patient was put to bed, and a cotton jacket and carbonate of ammonia ordered.

March 5th. Patient in bed; passed a poor night; no sweats; temperature, 102.5°; pulse, 145; respiration, 30; no more fainting spells; taking abundant nourishment. On examination the base of the right lung seems slightly dull, and breath sounds are not well heard; many crackling and sibilant râles still heard in this area; no tubular breathing; no increased tactile fremitus; left lung clear; no rose-spots; no palpable spleen; Widal reaction negative. A 12-hour specimen of sputum, which looked much like saliva, was secured; on examination it contained moderate numbers of tubercle-bacilli.

March 6, a. m. Patient somewhat brighter to-day; lips and finger-tips blue; complains of no pain; coughs a little; temperature, 103°; pulse, 140; respirations are rapid and with effort; crackling râles at base of right lung still heard; also same râles in apex of right lung; left lung clear; heart normal.

Diagnosis: Acute miliary tuberculosis of lungs.

March 7, a. m. Patient restless during night; complains of no pain; mind clear; tongue white dry coat; lips and finger-tips blue; temperature, 103°; pulse, 150; no change in lung findings, except that dullness over right base is more marked; no tubular breathing.

March 7, p. m. Dr. Kelly called in consultation; condition unchanged; cyanosis of lips and finger-tips as before; temperature, 104.2°; pulse, 150; respiration, 40; patient breathes with an effort; râles in right chest as before; Dr. Kelly agrees in diagnosis.

March 8, a. m. Patient seems at times unconscious to-day; slight mental wandering; answers questions rationally when spoken to; temperature, 103.2°; pulse, 140; to-day sibilant and crackling râles can be heard over the apex and axillary region of the left lung; the right lung is full of fine crackling râles with now and then a sibilant râle; the blueness under the finger-nails is more marked; second examination of sputum shows many tubercle-bacilli, and a few leucocytes.

March 8, p. m. Temperature, 101.5°; pulse, 140; patient restless, nervous, and breathes with a great effort.

March 9, a. m. No change in patient's condition; temperature, 101°; pulse, 150; respiration, 38; cough is more pronounced to-day; patient sweats much, and is delirious at times; lung condition unchanged aside from an increased number of râles in the right lung.

March 9, p. m. Patient no better; tosses her head from side to side; utters expressions of delirium; marked tremor of finger-tips; marked cyanosis of lips and finger-tips; temperature, 102°; pulse, 135; respiration, 42; takes little nourishment. Ordered morphine for sleep.

March 10, a. m. Girl lies in stupor, muttering delirium; marked hallucinations of black cats, horses running away, etc.; eyes half open; sordes on teeth; patient struggles for breath; temperature, 102.5°; pulse, 140; urine contains no albumin and no casts; lung condition unchanged, except râles are more numerous in the left chest while in the right lung the râles are fewer in number and breath sounds are more plainly heard; no tubular breathing or increased vocal fremitus in either lung.

March 10, p. m. Temperature, 101.2°; condition unchanged; tubercle-bacilli again found in sputum.

March 11, a. m. Patient more quiet during the night; breathing rapid; fingers blue at tips; cheeks suffused; temperature, 102.5°; pulse can not be counted; both lungs filled with sibilant and crackling râles; urine passed involuntarily; patient is taking strychnia, whisky, cream, milk, egg-nogs, and morphine for sleep.

March 11, p. m. Patient seems slightly improved; cyanosis not so pronounced; patient's mentality is clearer, although she speaks in a whisper and seems very weak.

During the 12th and 13th the patient seemed to improve. Her temperature ranged between 101° and 102.6°. She cleared up mentally; her pulse was less rapid; and the cyanosis was not so pronounced. The cough was sharp and hacking in character, and thin mucoid sputum raised; sweats at night were troublesome. The right lung contained less râles, and admitted more air. Over the left lung could be heard many crackling and sibilant râles, but no tubular breathing.

On March 15th, a. m., the note reads: The patient is not so well to-day; temperature, 100°; pulse, very rapid; respiration, 45 per minute; she speaks in a whisper; the urine and feces are passed involuntarily; the cyanosis of lips, cheeks, and finger-tips is most pronounced.

March 15, p. m. Patient is much weaker; finger-tips a dark blue, almost black; dyspnea marked; patient is unconscious; pulse can not be counted; lungs not examined.

March 16, a. m. Patient lies with eyes half open, and can not be aroused; sordes on teeth, and muttering delirium; cyanosis as before; pulse, 150; urine contains albumin, but no casts; lungs not examined.

The patient died at 5 p. m. March 16th, the cyanosis at the end being the most marked feature to be observed.

That the case was one of acute pulmonary tuberculosis of the miliary type, is proven by the character of onset, the fever range, night sweats, pronounced cyanosis at all times, the physical signs of a bronchopneumonia, the scanty expectoration, the delirium, the typhoid state prior to death, the short course of 26 days, and the finding of tubercle-bacilli in the sputum on repeated examinations. No autopsy was allowed.

Bibliography

1. Fowler and Godlee's "Diseases of the Lungs." Page 296.
2. Am. Jour. of the Medical Sciences, May, 1900, pages 519 and 520.
3. Fowler and Godlee's "Diseases of the Lungs," page 333.
4. Pepper's "System of Medicine," Vol. III. p. 476.
5. Osler's "Text-Book of Medicine," page 199.

TEA AND COFFEE INTOXICATION

E. King states the physiologic action of caffeine and theine as follows: (1) They cause wakefulness, greater capacity for mental labor, and increased activity of thought by stimulation of the brain cells. Increase of the reflexes through stimulation of the spinal cord. (2) The heart's action is strengthened, being first slowed, and then becoming more rapid and irregular. This effect is likened to that of digitalis, but is more evanescent and also more rapid. It is generally conceded that this effect is due to stimulation of the medulla and not to direct action on the heart. (3) Diuresis occurs by direct stimulation of the secretory epithelium of the kidney, the solid as well as the liquid constituents of the urine being increased. (4) Theine is said by some authorities to have the following action in addition to the above: It causes a fall in body temperature, while caffeine causes a rise; its action is more marked on the sensory system, and caffeine on the motor system; it is a powerful local anesthetic and analgesic, while caffeine has no such effect. (5) The tannic acid exerts its well known astringent properties on the alimentary canal, and undoubtedly has an injurious effect on gastric and intestinal digestion through the formation of insoluble compounds. Consequently, when used to excess, the following reactions may be expected: Exhaustion of the brain from constant overstimulation, insomnia, vertigo, headache, neuralgia, flashes of light, mental dulness with exhaustion of mind, disinclination to work, and melancholia; increased and irregular heart action, ringing in the ears, muscular tremors; various forms of gastric and intestinal indigestion, with loss of appetite; diarrhea when using coffee, and constipation with alternating attacks of diarrhea when using tea; loss of bodily weight.—American Medicine.

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DOES IT PAY TO WRITE ARTICLES FOR A MEDICAL JOURNAL?

A frequent and interesting contributor to The Northwestern Lancet answers the above question in the affirmative. The writer of an article published by The Lancet more than one year ago received over six hundred requests for reprints of the article. His correspondents wrote from all quarters of the United States, showing the widespread possibilities of an instructive medical topic.

The article was also copied and abstracted in many of the journals of the medical press, and evidently reached a large class of readers.

The demands were so numerous that the first supply of reprints was soon exhausted, and, to anticipate further requests, the writer sent his letters to P. Blakeston Son & Co., who asked consent of The Lancet to republish the article, which they have done in attractive form, and will hereafter supply the demand. The article is now among the list of brochures published by this firm.

Another writer, whose practice at the time was in a small country village, reported in The Lancet a very rare case, in which one might think very few medical men would have any interest; and yet there were over fifty calls for copies of The Lancet containing this article.

A man who writes an article for a medical journal may have a few applications for reprints, but that six hundred applications came to one writer is proof enough that a good article is read, appreciated, and preserved for future reference. Its influence may extend over a large territory, and bring reputation and renown to the writer.

It is general admitted that much of the medical literature published is either worthless, uninteresting or valueless, while the rest may be clinically instructive, original, or suggestive. Some of the articles may be scanned by the reader or passed over as not worth his time; a few, however, may, be carefully read by an occasional reader who is particularly interested. This occasional reader may be found in many states and cities, and, collected, may mean a large class. The inference is that a good article always attracts attention, and reflects credit on the writer, a good impression is made, the article and writer are quoted, and his name and fame are extended.

The Lancet has always received its share of attention, and its articles are frequently abstracted, not only in the well-known American journals, but in the journals of foreign countries.

To write and record should be the duty of every medical man, particularly if he has something instructive to say and says it in an original way.

There is an overabundance of what passes for original research, much of this matter is of no medical value, and the reader soon tires of the meaningless phrases. A well-recorded case that has been observed and followed to recovery, or the post-mortem table, is better than the knowledge of the unstriped muscle layer of the abdomen of a cat; the treatment of disease with some new suggestions, medical or hygienic, that is common-place, may bring comfort to the patient and help the doctor, and is the crying need of the medical journal.

Write an article, record observations carefully, and publish it for the benefit of your fellow practitioners.

THE ITHACA EPIDEMIC

The epidemic of typhoid which has swept over the city of Ithaca, and left behind a large number of deaths, is a warning to all cities, large and small, to look after the water supply. The outbreak of typhoid at Ithaca has been traced to the water. The students of Cornell University requested the executive authorities to adopt some means to prevent the infection of the water supply, but for some reason no effort was made to investigate the condition or safeguard the supply until the epidemic became alarming.

In a city where a large university is located, where all the possible facilities for water analysis are within easy reach, the city or the university chemists should make frequent investigations of the water, if not for the safety of the students, at least for the benefit of the students in chemistry.

There is no logical excuse for any epidemic like typhoid in a city situated as is Ithaca. If an outbreak of typhoid should occur in Minneapolis and its source be traced to bad water, the health department would be justly scored for not exercising a more watchful eye. The people would demand redress, the newspapers condemn and criticize, and the city would be advertised in the worst possible light. With the present condition of the streets, the filth and general untidiness, Minneapolis may expect almost anything in the way of an epidemic. Such an outrageous condition is a shameful blot upon any city, and no other city that claims the virtue, pride, and beauty that Minneapolis heralds abroad, would allow a traveller to see the combination that appalls, nauseates, humiliates, and disgraces the streets of this benighted town.

It is high time that the water supply and streets be made the subject of immediate attention by the city council.

PROGNOSIS IN DISEASE

Gerhardt of Berlin says: "The prognosis is the highest and ultimate achievement in the art of medicine, as it presupposes everything else." This means that the physician must be able to make an accurate diagnosis of disease states; he must be expert in the differentiation of the various forms of disease; able to locate the disease in the proper organ, if within the abdominal cavity; decide how diseases may announce themselves by referring the symptoms to distant organs; and, most important, determine the prognosis, which is based upon the personal equation of the individual, together with the disease state.

Deductions of this kind are acquired by experience, knowledge, and, for want of a better term, a natural intuitive skill that is granted to a minority of physicians. There is a good deal in diagnosis that is purely speculative, but not guess-work, for to say that would imply that diagnosis was luck in guessing. Many physicians are possessed of one or more faculties that make them famous. They look wise, are sympathetic, and say but little, and that little is couched in great, meaningless words that often impress the patient or his friends, and thus the doctor escapes catechism.

There is a class of physicians who are alarmists, who know but little except to announce the fact that "they have just been called in time to save life." Their aim is either to frighten the friends, speedily cure the patient, and collect their fee while gratitude is fresh in mind; or they alarm to cloak their ignorance, and, in the event of the death of the patient, to be on the safe side from a prognostic standpoint. Such men succeed for a time; their course is soon run, and the patient turns to others for advice and service. The man who is unable to make a painstaking examination, or who relies upon irresponsive and unreliable informants for history and early symptoms, is one who should be exceeding slow in making a prognosis, but he who has an opportunity for history-taking and for examination and observation of the patient, is in a position to state his prognosis, and should have the courage to proclaim it. The general practitioner, the medical man who knows the family, their powers of resistence, their physical and physiological peculiarities, is often more accurate in his prognosis than the specialist who is unable to digest and foresee the real state of the case; he can only see what is actually before him, and cannot, in a brief examination, comprehend the true patient as he appears before the man who is more intimately acquainted.

Unfortunately, in many instances the disease is so hidden or masked that no diagnosis can be made that is verified by post-mortem. The physician or surgeon is often astonished when he finds an unexpected and unsuspected growth in the pelvis, the abdomen, or the cranial cavity. He has been led to think that he has discovered all possible organic errors, bases his diagnosis and prognosis on the exclusion of certain symptoms of disease, and yet in the end is wide of the mark. When a man does the best he can, gives time to study and observation, and boldly states his prognosis, he need feel no humiliation in his error; the mistake may be made by the most skilled diagnostician.

Disease will remain hidden in some form, years of experience may bring it out, but in the main the diagnosis and prognosis must be based on the individual and his inherited or acquired defects rather than on many of the evidences of his diseased organs.

BOOK NOTICES

Obstetrics. By J. Whitridge Williams, M. D., Professor of Obstetrics, Johns Hopkins University, Obstetrician-in-Chief to the Johns Hopkins Hospital; Gynecologist to the Union Protestant Infirmary, Baltimore, Maryland. Eight Colored Plates and 630 Illustrations in the Text. 818 Pages. 8 vo. Cloth, $6.00. New York: D. Appleton & Co.

It is a pleasure to welcome to the realms of obstetric literature this complete and finished effort of Dr. Williams. We had reason to expect from him thorough and scientific work, particularly because of his bacteriological researches and pathological findings in puerperal septic infection, made and reported several years ago. No other obstetrician in the United States has ever given us such satisfactory bacteriological investigations in the so-called "puerperal fever." The role of infection in mammary abscesses, milk-leg, and puerperal psychosis receives the prominence to which it is entitled because of the most recent laboratory researches.

Statements made throughout the book are succinct, concise, and terse, making the work exceedingly valuable to the student and young practitioner. There is comparatively little discussion of different theories which so often serve to confuse the student and beginner, who needs, at the outset, only the main facts, before the acquiring of practical experience.

The author's own experience does not receive undue prominence, and no effort is made to extol himself, and thus much valuable space is saved thereby. This experience, however, has been large, and is used as an aid in giving hints which are valuable from the standpoint of the teacher.

The letters used to designate the different positions and presentations are borrowed from the French, and will neither be generally accepted nor adopted in this country.

The book itself is another addition to the long list of Appleton's favorites.

A. B. Cates.

REPORTS OF SOCIETIES

HENNEPIN COUNTY MEDICAL.

F. A. Knights, M. D., Secretary

A stated meeting of the Hennepin County Medical Society was held at the society's rooms in the Andrus building March 2, 1902. Dr. J. W. Bell, president, in the chair.

Executive Committee reported by the secretary announcing the necessity of a special assessment to pay dues to the state society.

Dr. J. M. Lewis suggested that the necessary amount be made up by voluntary subscription, and made a motion to that effect which was lost.

Dr. W. A. Hall explained that the dues must be paid before March 15th, and that those members who pay before that time would remain in standing in the state society and American Medical Association, and would pay $2.00 dues while those who pay direct to the state as heretofore would pay $3.00. On motion of Dr. J. Clark Stewart the Secretary was instructed by the society to send out postal cards bearing a statement of the case to all members.

Dr. A. Lind presented to the society the need of the famine sufferers in Sweden and Finland, and on motion of Dr. Rochford a committee consisting of Dr. Lind, Dr. C. J. Ringnell, and Dr. Jakob Hvoslef was appointed to receive contributions.

A communication from Dr. Jas. W. Robertson, of Litchfield, regarding the procuring of dissecting material by physicians not connected with schools was read and laid on the table, statement being made to the society that such facilities are already provided by the law.

Dr. J. H. Dunn reported an interesting case in which the great sciatic had been severed and sutured, with photographs showing cicatrices and areas of disturbed sensation.

Dr. H. L. Staples presented a paper on the treatment of typhoid fever which was discussed by Drs. D. E. Smith, Barton, Kelsey, Rutledge, Todd, Chapman, and Nippert, the discussion being closed by Dr. Staples.

Dr. D. Edmund Smith, after some remarks on a bill for establishing a sanitorium for consumptives in this state, moved the adoption of the following resolution:

Whereas: There is now before the state legislature a bill to appropriate $150,000 to establish a state sanitorium for tuberculosis patients and $50,000 per year to maintain the same.

Resolved, That this society favors the plan, and requests our state legislature to pass the bill.

Dr. Phillips moved as a substitute that the secretary be instructed to get the bill, and a special meeting be called to discuss it. The society then adjourned.

MISCELLANY

PROPOSED NATIONAL MEETING TO CONSIDER THE DANGERS FROM VENEREAL DISEASES

At the last (fifty-third) meeting of the American Medical Association, held at Saratoga Springs, June 10-13, 1902, a joint resolution from the Sections of Cutaneous Medicine and Surgery and Hygiene and Sanitary Science was introduced in the House of Delegates as follows:

"Whereas, There is a burning necessity to check the spread of venereal diseases, and, assuming that the states cannot with impunity ignore the condition, it lies in the province of the medical profession to discuss and recommend to the respective state legislatures and municipalities means not regulative, but social, economic, educative and sanitary in their character, to diminish the danger from venereal diseases.

Resolved, that the Section on Cutaneous Medicine and Surgery of the American Medical Association invite the Section on Hygiene and Sanitary Science to co-operate with the Section on Cutaneous Medicine and Surgery in bringing about a propaganda in different states, looking toward a proper recognition of the dangers from venereal diseases, and to arrange for a national meeting under the auspices of the American Medical Association for the prophylaxis of venereal diseases, similar to the International Conference for the Prophylaxis of Venereal Diseases, which meets again this year at Brussels, under the authority of the Belgian Government."

This was later submitted to the House of Delegates, which endorsed the action of the Section and adopted the following:

Resolved, That a joint committee of six from the Sections of Hygiene and Sanitary Science and Cutaneous Medicine and Surgery be appointed by the president to stimulate study in and uniform knowledge of the subject of the prophylaxis of venereal diseases and to present to the American Association a plan for a national meeting, similar to the International Conference for the Prophylaxis of Venereal Diseases, which meets again this year in Brussels, under the auspices of the Government of Belgium."

The committee on prophylaxis of venereal diseases consists of:

Dr. Henry D. Holton, chairman, Brattleboro, Vt.

Dr. Ludwig Weiss, secretary, 77 East Ninety-first street, New York.

Dr. George M. Kober, 1600 "T" street, Washington, D. C.

Dr. W. H. Sanders, Montgomery, Ala.

Dr. L. Duncan Bulkley, 531 Madison avenue, New York City.

Dr. Frank H. Montgomery, 100 State street, Chicago, Ill.

The peculiar social, racial and political conditions of our country are so different from those on the continent that they necessitate an expression of solely American ideas on this mooted question, both from a socio-economic and sanitary point of view.

The committee desires the support of the medical profession, and would be glad of personal correspondence from those supporting the movement, and who will contribute by papers, etc., to make it a success in case the House of Delegates should favor the holding of such a congress

Ludwig Weiss, M. D.,
Secretary of Committee.

DIET IN GONORRHEA

The dietetic treatment of gonorrhea, according to H. Gilman Thompson, consists in avoiding all alcohol and stimulating food and drinking bland diluents. In severe cases, and in cases among young children who have in some manner been infected, a skimmed milk diet should be ordered at first. Later, light farinaceous articles, stale bread, milk and rice puddings should be added. They must avoid acid fruits, all highly seasoned and fried foods, condiments and pastry. Alcoholic drinks in all forms are absolutely prohibited. Malt liquors are especially bad, as they are in all diseases of the urethra, bladder or prostate. No late meals should be taken. By observing these directions troublesome chordee and ardor urinæ, so apt to occur in the first fortnight, may be prevented. Large quantities of such waters as soda, seltzer, Apollinaris and 2 or 3 quarts of plain water should be drunk. The fluid dilutes the urine, diminishes the danger of cystitis, and has the additional advantage of decreasing the appetite.

INFLUENZA AND THE NERVOUS SYSTEM

Smith Ely Jelliffe, M. D., says in the Philadelphia Medical Journal, that even in the early epidemics of influenza—one of which occurred in Europe in 1404—it was noted that the disease had a tendency to be followed by mental trouble: hypochondriasis, melancholia, depression, and even suicide. In the last epidemic, which occurred in 1889 and 1890, this same tendency was also noted, both in this country and in Europe. Gowers writes: "There is no acute malady, with the exception of diphtheria, after which disturbance of the nervous system is so frequent as after influenza, and there is no other disease that has such varied nervous sequelæ. This effect, though long known, has never been perceived so distinctly as in the severe outbreak of 1890." Berkely, writing of the outbreak of 1891-1892 and of 1898-1899, notes that the toxines of influenza seem especially to affect the nervous system, producing particularly stupor or confusion. Dr. Jeliffe has noted in fifty cases of psychoses following influenza, mental stupor or confusion in 20 per cent. It is to be regretted that during the past epidemic more work was not done on the bacteriology of this disease, since, without a bacteriological study, a positive diagnosis is not possible. A ready means of staining and cultivation is much to be desired. Statistics go far to show that recent epidemics greatly increase the suicide rate, both in New York and in Chicago. The disease should, therefore, not be considered a matter of small moment. The slight fear the general public has of the disease makes its control difficult. Physicians should, however, do what is possible to create a more intelligent understanding, and should advise the same antiseptic and disinfecting precautions as are used in other cases of infectious and contagious disease.—New York Medical Journal.

VAGINAL INJECTIONS IN THE NORMAL CONDITION

J. M. Barreneche (Revista Medica de Bogota, Year xxiii, No. 268) utters a note of warning against the indiscriminate use of vaginal injections and emphasizes the fact that the normal secretions are antiseptic in themselves, and the introduction into the vagina of a syringe point and injection of doubtful purity—as for example the "cleansing" douches used by women themselves—is to run the risk of infection, and furthermore to deprive the organ of its natural means of defense by washing away the secretions. The use of the vaginal douche is especially deprecated in the pregnant woman, and immediately before and after parturition; not only because of danger of infection, but because at the beginning of labor, the vagina and cervix are almost as one canal, and an injection into the former may become an intrauterine injection; further, such lavage deprives the descending fœtus of the natural lubricant for its passage.—New York Medical Journal.

THE TREATMENT OF TUBERCULOUS GLANDS IN THE NECK

Leonard Freeman (Jour. Amer. Med. Ass., December 6, 1902) says that general treatment, especially hygiene, is of the utmost importance, both in the cure of incipient trouble and in the prevention of relapse following operations on more advanced cases. Residence at the seashore has long been recognized as of great benefit; but there is reason to believe that a high and dry climate, such as that of Colorado, with its rarefied, stimulating atmosphere and abundant sunshine, possesses superior advantages. A point of extereme importance in local treatment is to abolish sources of infection, in the teeth, tonsils, nose, ear, scalp, etc. Non-operative treatment is often of doubtful utility, except in the beginning of the disease. Pulmonary involvement does not contra-indicate operation, at least in Colorado, except in advanced stages. Curettement is applicable to sinuses, tuberculous ulcers of the skin, and when complete removal would be attended with too much risk. In all other instances a thorough operation should be done. The chance of permanent cure following operation is probably better in Colorado than in lower and less favorable altitudes.

NEWS ITEMS

NORTHWESTERN NEWS

Dr. M. A. Trow, of Currie, has moved to Avoca.

Dr. Malcom McKinnon has moved from Fosston to Mallard.

Dr. F. R. Hansen, of Heron Lake, has removed to Lakefield.

Drs. McGuire and Ashbury, of Wabasha, have dissolved partnership.

Dr. L. L. McCurdy, of Brown's Valley, has gone to California to locate.

Dr. E. F. Jones, a graduate of Rush, has located at Gann Valley, S. D.

Dr. J. B. Muir and family, of Hallock, is home from a trip to California.

Dr. H. A. Beaudoux and family, of Fargo, N. D., sailed this week for Europe.

Dr. J. P. Johnson, of Owatonna, now in Colorado, is reported to be very low.

Dr. Thos. G. Devitt, of Grand Forks, N. D., is in Chicago doing post-graduate work.

Dr. A. F. Gosslee, formerly of Motley, has begun work in his new field at Perley, Minn.

Dr. J. C. Lawver, of Spencer, S. D., was married to Miss Maggie Teich, of Emery, last month.

Dr. C. L. Wendt, of Canton, S. D., has been appointed local surgeon of the C. M. & St. P. railway.

Dr. C. J. Ringnell, of Minneapolis, announces that hereafter his practice will be confined exclusively to surgery.

Dr. W. A. Jones, editor of The Lancet, has gone to New York, and will return to his practice some time this week.

Wadena is very much stirred up over the death of a young girl who was treated by a magnetic healer and given an injection by him.

Dr. J. H. Gould who has been practicing a short time in Jackson, has left to take up his work in the U. S. Army medical service.

Dr. W. A. Angell, who has been absent from Canby for a year past, has returned, and will devote his time to eye, ear, nose and throat work.

Dr. J. P. Chance, a 1900 graduate of Hamline and now practicing at Royalton, was married last month to Miss Maude Gilbert, of the same place.

Dr. J. F. Locke, of Long Prairie, who went east some time ago, expecting to be operated upon, has returned home feeling somewhat better, and the operation given up.

Dr. J. E. McMee, of Chester, Iowa, has purchased the practice of Dr. Bradford, of Canova, S. D. The latter will spend some months in special study.

Dr. Herbert W. Jones who has been in practice in Faulkton, S. D., for the past year, has removed to Minneapolis where he expects to remain. Dr. Jones graduated at the State University, Class '01, and then spent a year in St. Luke's hospital of St. Paul.

A reciprocal license law has been introduced into the Minnesota legislature. Its purpose is to admit to practice in this state physicians licensed in other states having the same requirements that this state has and also recognizing in a like way licenses issued in this state.

Dr. H. R. Porter, of Bismarck, N. D., died suddenly a few days ago at Agra, India. He was making a trip around the world. Dr. Porter was well-known in the northwest, having come west in early days. He was with Custer in his memorable trip against the Sioux Indians, and had charge of the wounded who were of the Custer and Reno commands.

The Minnesota General Hospital Association has been incorporated in Minnesota. It purposes to establish a general unsectarian hospital in St. Paul. It is the desire of the leaders in this work to raise a very large sum, a million dollars, if possible, to carry out their plans. The physicians in the list of incorporators are Drs. C. A. Wheaton, J. E. Schadle and C. L. Greene.

PRACTICE FOR SALE

Physician's practice with modern home in one of the best locations in Minneapolis, will be sold for less than the value of the house which is arranged for a physician's use. The practice will afford a good living from the start. The owner is obliged to leave the city, and will sell his practice and house on terms to suit the purchaser.

Address A, care of Northwestern Lancet, Minneapolis.

NORTHWESTERN LANCET

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SOME REMARKS TO THE GENERAL PRACTITIONER AS TO THE TREATMENT OF ACUTE INFORMATION OF THE EAR AND MASTOID, FOLLOWING THE GRIP

By H. McI. Morton, M. S., M. D.

Eye and Ear Surgeon to the Swedish Hospital, Consulting Eye and Ear Surgeon to the Asbury Methodist Hospital, Minneapolis

MINNEAPOLIS

During the past five weeks twenty-two cases of acute inflammation of the ear drum, the middle ear, or of mastoid disease, have been placed upon the records of the writer. Of these over 80 per cent are clearly to be attributed to an attack of what is usually designated as the grip. In these cases the writer has observed this fact: that a large body of the general profession do not yet fully appreciate the early indications for treatment in such acute inflammations, and as a result many complications arise, which, without any question of doubt, should be prevented. This is perhaps a rather severe indictment, but that it is the truth I am confident, and any aurist with a sufficiently large experience must concur. I have already observed that they do. In spite of repeated warning given by ear surgeons, I am convinced the general practitioner is not yet fully awakened to the seriousness and danger in any "expectant" plan of treatment, in dealing with patients suffering with "ear-ache." It is even more astonishing, to observe further, that many practitioners allow such cases to suffer, with the explanation that the ear "will soon break," and thus give relief. Such advice is little short of malpractice, for it is clearly opposed to all surgical reason, and the results, which come later to seek relief in the aurist's office, show that an otherwise simple inflammation, merely demanding ordinary surgical attention, has, by delay, not alone caused prolonged and excruciating suffering, but has permitted to come about serious complications, ofttimes requiring a long course of treatment to correct, or an immediate and possibly serious operation to save.

Briefly, then, delay in advancing the proper treatment to these patients suffering with earache—otherwise acute myringitis, or acute inflammation of the middle ear proper, or of the Eustachian tube—may not alone cause a probably long continued otorrhea, a serious mastoid disease, a cerebral abscess, but further,—if none of these are the final result,—we may find such serious impairment in the conducting apparatus contained within the middle ear as to present to his patient a noticeable impairment in hearing-power, or a severely annoying tinnitus.

In view of the fact that they must constantly meet with just such cases, in connection with the prevalent epidemic of the grip, it seems a consummation much to be desired that the general practitioner acquire sufficient knowledge to *really* look into the ear, to *really* see the drum, and to *really* know, after he sees the drum, the significance of what he sees, or that he know enough to send the case into the hands of one who should know.

With this series of cases, and with the further assistance of a large series, which have appeared almost yearly as a crop of sequelæ of badly treated ears, as a guide, let me suggest some practical points, and without any theorizing whatsoever.

When we are called to see a patient suffering with ear-ache and with a slight rise of temperature, we at once, the first act, with head-mirror and speculum, inspect the canal of the ear, and, at its fundus, the ear drum. If we cannot do this, and are fully aware that upon looking in we may not know a bean in the ear from a bulging drumhead, we should then call in someone who will make this necessary and valuable differential diagnosis. If we find the introduction of the speculum difficult and impossible, and for the reason that we have a greatly swollen canal, and if with this there is no tenderness on pressure, or upon precussion, over the mastoid, and if the pain is not of that excruciating character seen in acute middle-ear disease and does not radiate very noticeably into the temporal or post-auricular region, and in the absence of discharge, we may assume—for the present only—that we have a furuncle of the canal, or a diffused inflammation, and act accordingly, but immediately. This condition demands the free use of the bistoury in the inflamed tissue and as deep as the bony cartilaginous canal, the administering of a saline—the effervescent citrate of magnesia in one large draught and given immediately is good—with the continued exhibition of small doses of calomel (1-10th grain every hour) until two or three grains have been administered. Recurrence in such cases is common, and is due to reinfection of the glands in the canal.

Having a patulous external auditory canal to deal with, by gentle traction backward and upwards we can easily insert a speculum, and secure illumination of the membrane. If we see a drum of a blood-red discoloration, should we find it slightly injected, and in either case with no bulging, we have one course to pursue if we do our duty. That course is to perform paracentesis of the drum membrane without delay. This is a safe procedure, absolutely devoid of any danger to any structures, when done properly, and is the one and only proper thing to do with such existing conditions clearly shown to us. It matters not one iota whether there is pus or no pus back of the drum, opened it must be, if justice is done the patient. And why? Nights of suffering are at once followed by a relief from the intense pain, the relief being due to the escape of blood from the membrane, and to blood and serum both from the middle ear. A small opening made by the paracentesis knife, which offers drainage at the most dependent part and which heals quickly, is an agreeable substitute for a large perforation possibly high up in the drum, or even in Shrapnell's membrane, which affords no drainage, but acts simply as an avenue of escape, when the pus has dammed itself up to that level. The more serious is that attendant congestion of the mastoid and temporal cells which accompanies all severe acute middle-ear inflammation. In the child this danger is particularly imminent for the reason that the roof of the middle ear is usually membranous only, and extension to the dura is common. In the adult the mastoid sequelæ, and disease of the attic running into an old otorrhea, are more common.

But without bringing further to your attention these more serious complications, what I most desire to lay stress upon is that this simple procedure—paracentesis of the drum—relieves the pain quickly, and permits the case to at once proceed upon the road to rapid recovery, just as any other abscess or inflammatory condition heals in a few days under appropriate treatment. The general surgeon does not approach an abscess with such treatment as delay and continued administration of morphine. If he did he would be called incompetent, but, I regret to say, it is the common experience to find just such methods as these applied to the ear, injection after injection of morphine, not so much as a glance at the ear, and with continued assurance that "the ear will soon break."

It would seem that the time was past for this stage of professional ignorance, and it may not be improper to say that a long list of just such occurrences makes the writer perhaps more insistent than might appear good taste. I venture to assert that the general profession is more indifferent to and less well informed of these primary truths than of almost any other fact in the every-day diseases which they meet. The results are too disastrous to the patient to have this fact ignored. This week the writer has seen four cases, one where the diseased ear, or ears, were positively stuffed with all sorts of oleaginous concoctions, and the patient literally filled with morphine, and where paracentesis gave almost immediate relief; another case where the patient being told to wait, a mastoid abscess developed, which the attendant came daily to watch; and another where a mastoid full of pus—too evident to miss with dark glasses on—was permitted to wait for two weeks. Surely at this time when so much grip is about us, and with it so much attendant ear disease of an acute nature in evidence, as one of its very common sequelæ, it is proper to call the attention of the profession to this subject.

I shall supplement these remarks by a few typical cases, which will serve to illustrate some phases, with their symptoms, complications, and treatment, of acute ear disease which very commonly accompany or follow upon the grip.

CASE 1.—*Acute myringitis complicating an attack of grip, in which paracentesis of the drum membrane resulted in recovery in three days, and with rapid restoration of the hearing function.*

F. R——, aged 25, white. During a severe attack of grip the patient was stricken with a violent ear-ache on the left side. Inspection showed a marked redness of membrane and of the fundus of the canal. Hearing was greatly reduced. After paracentesis considerable blood and serum escaped. Relief from pain followed in two or three hours after the operation. The wound healed in three days, and before this had occurred only a very small amount of a serosanguineous discharge was noticed, but it rapidly diminished in amount. Inflation with catheter daily for a week resulted in restoring the hearing-power to its former status.

Remarks.—This case is a typical picture of rapid recovery after the prompt performance of paracentesis, and followed with rapid and uneventful restoration of hearing.

CASE 2.—*Acute otitis media occurring during grip, with severe pain persisting for days, and treated by repeated hypodermic injections of morphine, with no attention to the ear, and relief of pain immediately after paracentesis, followed by otorrhea requiring weeks to cure, and with slight permanent impairment in hearing.*

Mrs. B——, aged 35, after suffering with influenza for several days, was seized with violent acute pains in both ears with marked diminution of hearing-power. A physician was called, who, *without examination of the ear,* prescribed an oily mixture to be dropped into the canal, and gave the patient a hypodermic injection of morphine. The pain returning as soon as the effects of the morphine had ceased, the doctor was recalled, and the injection was repeated, the patient still suffering violent pain in the ears, and being in a semidelirious condition, *but no examination of the ears was made.* Opening of the "abscess" was even proposed by the daughter of the patient, but this procedure was discouraged. The case not improving another medical attendant was called in, who repeated the injection of morphine, *but made no examination of the ear,* I saw the patient three days after the severest portion of the attack, and found her still suffering excruciating pain, in a worn out condition from loss of sleep, and for several days she had taken very little food. After a considerable period of time necessarily occupied in the removal of the mass of material that had been dropped into the canal, the drum-head was found bulging and about ready to rupture. The tissue of a large area of the drum was necrotic, and even after paracentesis, which was immediately performed and gave almost instant relief, there remained a large irregular perforation. The case required weeks of treatment to cure of the otorrhea, and has resulted in a permanent and annoying impairment of hearing to the patient.

The writer wishes, without qualification, to register his disapproval of any kind of "drops" being instilled into the ear of the adult, and in only exceptional cases in the child, and these exceptional cases will be spoken of later. Such drops nine times out of ten are worse than useless, form a favorite culture-ground for all sorts of bacteria, and delay the performance of the procedure which at this time is immediately and imperatively demanded. Why such "drops" are yet prescribed by perhaps one-half of the general profession, immediately upon being called to see a case of ear-ache, in view of the observed fact that practically no absorption of the instilled material takes place through the adult canal and membrana, is one of those mysteries which seems more than difficult to explain, and that the men who prescribe them never can explain why is very safe to say.

I may add that if no instruments are present with which to open the drum, and especially if the patient is a child, cocain (20 per cent) often does excellent service in preventing pain, and it is also an antiphlogistic.

The use of the cocain in the child is attended with some absorption of the material used, but this is not the case in the adult. The exhibition in such cases of five to ten grains of the salicylate of soda or of the salicylate of ammonia is beneficial, and the application of very hot and continuous fomentations over the ear and mastoid is indicated. In the adult large doses of the salicylates up to one dram, may be used.

In the child a large dose of castor oil, and in the adult calomel followed by a good saline, are at once in order. Absolute rest as nearly as possible should be taken. The use of two drams of tincture of benzoin comp. in one pint of boiling water, the fumes to be breathed into the throat, may be tried. The preceding remarks are only temporary expedients to be advocated until a paracentesis of the drum can be performed.

In every case of pain in the ear a careful examination of the drum is at once necessary, for it must not be forgotten that every pain in the ear does not positively indicate an acute inflammation, so that finding no departure from the normal in the drum-head, it is of course proper to delay any operative interference. Neuralgia, the neurotic temperament, and hysteria must not be overlooked when dealing with the adult.

Case 3.—*A typical case of acute otitis media, following grip, with slight mastoid involvement, which yielded to correct treatment, illustrating the need of the application of simple surgical procedures in such cases.*

Mrs. B. N——, aged 45. While recovering from grip an abscess formed in the middle ear, and was permitted to "break." Mastoid symptoms followed, and the patient was permitted to continue with a badly draining ear and a tender and swollen mastoid region for a period of about two weeks. Operation upon the mastoid resulted in rapid recovery.

Remarks.—Had the membrana been opened the attendant mastoid congestion, which commonly accompanies an acute disease of the middle ear, would have in all probablity been relieved. As it was, the drum perforated high up near Shrapnell's membrane, and there being no drainage until the pus had dammed itself up to this level, the mastoid disease naturally followed upon its already congested state of the mastoid cells.

These typical cases are reported to add support to the underlying thought of this paper. As to the method of performing paracentesis, it is exceedingly simple, yet it may be done correctly or incorrectly like all such small operations. It is unusual to find general anesthesia necessary in the performance of this operation, and it is quickly executed under good illumination. The canal should be cleansed by the use of pledgets of cotton on an applicator saturated in a 1-500 and 1-1000 formalin solution (40 per cent).

In children cocain is quite efficient in inducing local anesthesia, owing to the greater capacity for absorption of the soft epidermal covering of the drum. While this is not so to anything like such an extent in the adult, a pledget of cotton saturated with a 20 per cent solution of cocain pushed well down into the fundus of the canal and allowed to remain in contant with the drum for ten or twelve minutes, is of aid, sometimes rendering the procedure painless. As large a speculum as can be used, with the inner surface well polished, and a light in good position and well focused upon the drum, are necessary to the avoidance of inaccuracy in the performance of the operation.

The question of the kind of paracentesis knife to use is an important one, and the writer takes issue with many operators, and claims decided advantages for a straight-handle instrument, the blade, shank, and handle forming a straight line. With this instrument the thumb and index finger replace the handle of the instrument ofttimes used, and greater delicacy of manipulation is obtained. So far as obstruction of the field of operation is concerned the bent handle has no advantage over a properly held straight instrument. The most suitable place for the incision is the posterior inferior quadrant of the drum-head. It matters not, so far as healing is concerned, in what direction the incision is made, although I prefer a vertical one. Should the membrana be distended by intratympanic accumulations of serum or pus the knife should be entered at the point of greatest bulging, and carried to the floor of the meatus. It is better to make the incision too large than too small, and it should be made with rapidity. Following this procedure some blood, or blood and serum, escape, sometimes pus. It is not my practice to inflate the ear during acute inflammation of the drum or middle-ear cavity or immediately following the performance of paracentesis. The day following I think gentle inflation with the catheter indicated. The use of this instrument is preferable to the Politzer bag alone, inasmuch as it is a more accurate procedure, (the one ear being inflated instead of both it and the unaffected ear) because with the auscultation tube much information as to the condition of the tube is obtained, and finally because the massage given the os tubæ is of value in itself.

Subsequent treatment consists of a repetition of this gentle inflation daily, the removal of débris from the fundus of the canal by pledgets of cotton dipped in 30 per cent Camphoroxol, the attention to any nasopharyngeal irritation or disease, and the generous administration of reconstructives, with attention to the diet.

I should omit an important agent in dealing with the case, at this time, if I failed to speak of the value of rest in these cases. The patient should lie down as much as possible, and in asthenic or nervous individuals in whom the grip has further depressed, confinement to bed is indicated. Ofttimes a few days in bed, after the carrying out of the preceding measures described, will promote entire resolution of the parts, and the many possible complications following such attacks, are rendered very much less likely. Ofttimes activity and persistence at the daily work will in itself bring about recurrence or greatly retard recovery. While there is discharge from the ear no cotton should be placed in the canal or concha, but a large piece of cotton covering the ear, mastoid, and entire side of the head, gives very great relief.

Never use hot-water bags in acute pain in the ear. The application of very hot cloths over the mastoid is much to be preferred.

Finally, let me say that this operation, introduced by Schwartze, and now in such general use by those possessing proper understanding of the treatment of ear disease, is one of the most practically important and successful therapeutic expedients in the practice of otology.

408-409 Andrus Building.

COLORADO SPRINGS AS A HEALTH RESORT FOR CONSUMPTION, ASTHMA AND HAY FEVER

By Harlan Trask, M. D.,

COLORADO SPRINGS, COLORADO

The charm of our climate can never be adequately described. The 80,000 who annually resort here for health and pleasure furnish the best proof of its virtues. No city in the world is engirdled with such beautiful natural parks and drives. Our public parks contain 1680 acres, and with our 32,000 population we have not a single saloon. A large part of our population is made up of invalids who were formerly "lungers," who sought and found a cure for their bodily ailments, and in most cases have been so permanently restored to health that they have forgotten that they ever had such a thing as pulmonary tuberculosis. Our altitude above the sea level is the leading peculiarity of its climate, being over a mile above the sea level. The conditions of our climate are most favorable for the expansion of the enfeebled lung with pure air.

That consumption is a veritable vampire, is a fact that no thinking physician will gainsay. Like the mythical bat, it sucks the life-blood and saps the vitality of its unfortunate victim. It is most subtle in its workings in so much so that tuberculous subjects will rarely admit it until after the second stage is far advanced. Osler, a most eminent authority, states that one million two hundred thousand people at any given time in the United States alone are affected, and that 13,000 die annually in New York with pulmonary consumption, and many other states furnish a corresponding mortality. We can scarcely comprehend what these figures signify. Osler states further that one in every fifty persons in this country is affected with tuberculosis. Thus we see that one-fiftieth of the population of the United States to-day are tuberculous subjects.

Direful as the foregoing facts appear, and really are, there is a rainbow of hope in the certainty that under proper climatic conditions combined with scientific treatment, a goodly per cent of tubercular cases will be susceptible of cure, and, what is more important, that the ravages of the disease thus confined can be so reduced, year by year, that eventually consumption will be an obsolete term in medical science.

We do not claim, as some physicians wrongly do when sending patients to this clime, that the climate alone is sufficient for the cure of chronic pulmonary ills, but we do claim that it is the most potent auxiliary to a cure; and yet a wise individualization and proper use of other aids should not be neglected, as systematic exercise, good feeding, lung gymnastics, seasonable inhalations of ozone, the application of the ultra-violet ray, which, while yet in its infancy, promises much as a destroyer of the tubercle-bacilli, and other direct treatment of the case in hand under the guidance of a reputable resident physician.

The greatest desideratum of all is that the health-seeker should resort to this inland high climate before it is too late. Hemorrhagic and inflammatory cases are the most favorably influenced of all varieties. This climate seems to be a great eliminator of malarial poison, if already this uncertain complication has not too much aggravated a tubercular infection. Youth is no bar to the resort to high altitudes, but a reason for it, if otherwise indicated. Old age is more of a bar, for acclimatization is correspondingly more difficult when serious lung disease has impaired one's ability to exercise. Most serious heart diseases, and advanced and active disease in both lungs are, however, contraindications. On the other hand, asthma, if it is pure bronchial or spasmodic asthma, is a most promising disease for the high altitude. The spasmodic contraction of the bronchial tubes, so characteristic of simple asthma, seems to find an elevation where the distress is gone and the breathing is free. Many of the present residents of this locality were once subject to asthma or hay-fever, and are here free from these diseases.

The object of this paper is to arouse the attention of the medical profession to the gravity of this danger, and through them to call the attention of all intelligent people and citizens, and especially to impress upon them the importance of our high altitude, and other advantages of the "City of Sunshine and Gold," for these tubercular cases.

ON THE PROGRESS OF MEDICINE SINCE 1903*

From the Edinburgh Review

IN TWO PARTS—PART I

An attempt to review within the limits of a short article the advance of medicine and surgery in the century now ended will, we fear, be considered unduly courageous, if not rash. It can only be made with large limitations. It will be impossible to go into detail in any direction, and many important departments of the subject must be entirely omitted. What will be aimed at is to show the main lines of advance in certain parts only of the science and art of medicine.

It may be said with sufficient approach to truth that all departures from health rest upon one or more of three main causes. The first of these can be described shortly by saying that "the machine is out of order." That the tendency of all vital action is towards frequent imperfection is not surprising when we consider the highly complex chemical and physiological changes constantly going on in the body, the interdependence of the various organs, the relation of all to the nervous system, the immense variety of the external conditions in which lives are passed, and the frailty of human nature generally. It is much more wonderful that some people should ever be well than that they should often be ill.

The second cause of ill-heath put diagrammatically is "growing old." It includes all diseases depending upon degenerative changes of tissue. The bodily tissues vary immensely in their original and inherited quality. The poor ones wear out early; the good ones later. But to all the end inevitably comes, and no advance of medicine will interfere with the general law of dissolution, or even greatly postpone the date at which it comes into effect. Death from natural decay is as much a law of the universe as life, and not less beneficent. But it is not always limited to old age as reckoned by years, and the process of wearing out often extends over a long period of time.

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*The editor of the Lancet deems this article of so much interest to medical men he has decided to make room for it in the columns of the Lancet. Because of its length it will be published in two parts

The third cause of disease is the invasion of the healthy organism by malign influences from without, or by their development from within. This great class includes all incidental injuries, all fevers, many inflammations, all forms of malaria, all tuberculous diseases, and all new growths. It is in this department of medicine that the great triumphs of the nineteenth century have chiefly been witnessed, and it is the progress of medicine and surgery in this direction that we shall specially attempt to describe. It is necessary to begin by recalling the state of things which prevailed in the medical world a hundred years ago.

Let us think for a moment of the sciences upon which modern medicine rests, and then of the condition of the art of medicine. At the dawn of the nineteenth century chemistry was in its infancy. Priestley had discovered oxygen in 1774. John Dalton had formulated the atomic theory—i. e. the laws which govern the physics of gases—in 1800. The study of chemistry was the fashion. Lord Cockburn tells us that "the younger men of good education were immersed in chemistry," and again that "the Liberal young men of Edinburgh lived upon Lavoisier." The talk of the salons was of chemistry even more than of politics and literature. A door had been opened into a new world, and all were eagerly trying to look through it. Meantime there was not much to be clearly seen. Volta had demonstrated the identity of galvanism and electricity in 1800.

Human anatomy, so far as it could be discerned by the unaided eye, was fairly well known. Almost every part had been named, but few were understood. Some one said that "anatomists were like postmen; they knew all the streets and the houses, but nothing at all of what went on in the houses." Physiology was in its infancy. Harvey's immortal discovery was nearly 200 years old, but no great advance had been made in the interval. Physiologists were waiting for a modern microscope and for improved methods of research. Pathology, the study of the origin of diseased conditions, and of the structural changes produced by them, was in its infancy. It waited for Rudolf Virchow. Even on the surgical side not much of practical value had so far grown out of pathology, Hunter's operation for the cure of aneurism by ligature of the artery being perhaps the only one which at that time could have been quoted as a direct result of pathological study on the part of the surgeon who devised and first practised it.

Operative surgery was in advance of medicine, as from its nature it always tends to be. "Its note was manual skill, meaning by this rapidity, courage, and perfection in doing surely, and neatly what had to be done. The great surgeon was he who could amputate a limb in the smallest number of seconds." But the mortality was frightful, and it did not seem to be considered the first duty of the surgeon to think how it could be diminished. The same was true of midwifery. Practical medicine received but little aid from accurate diagnosis or from hygiene. It rested, as to diagnosis, on the precarious basis of observation, and as to treatment, on the still more untrustworthy one of experience—i. e. on the empirical evidence of the power of certain drugs or methods to do good under conditions believed to be the same as those which called for treatment. "Experience" was under the dominion of hypotheses which were mostly baseless. It is not, however, necessary to withhold a certain measure of respect from that stage of the development of the science and art of medicine.

Observation must precede the birth of real knowledge. In many cases empiricism and observation guided the best physicians of the unscientific ages to remedies which we cannot doubt were potent for good; and it is probable that physicians often acquired a power of minute and correct observation which is more rare now than it was then. The two great remedies of the eighteenth century—bleeding and the giving of mercury—were, it is certain, often of great value. They were prescribed by men who could not talk about arterial tension, they did not know the condition by name, they had no real knowledge of how it tells upon the heart and leads to degeneration of the main organs of elimination. But the sagacious among them recognized high arterial tension by the pulse, and they arrived somehow at the two modes of relieving it, which could not be improved upon now. They gave mercury and they bled.

On the other hand, these same powerful weapons were often used unwisely, and with disastrous results. Practitioners of mediocre ability, of whom there must always be many, were more dangerous without the modern aids to diagnosis than they were with them. And besides the practitioners there was the vast body of perfectly ignorant people who were fond of doctoring themselves and their neighbors, and for whom faith healing and homeopathy would have been safer weapons than the mercury and bloodletting then in fashion. The note of modern medicine is precision. Everywhere, and by a variety of means, the physician seeks for precise knowledge. He is no longer content to be guided to a diagnosis by facial expression and by his own unaided eyes and fingers. He looks, with the aid of modern instruments, into the eye, the larynx, and other organs; he measures the heart, and the size of its cavities; he listens to the sounds of the chest, observes the reflexes, tests the nutritional condition of nerves and muscles, and records the temperature. With the help of a modern microscope he studies the blood. He asks, by all these new powers of observation, for a precise diagnosis, and having, as he thinks, found it, he demands from the pharmacologist or organic chemist weapons which he can trust to do precisely that to the organism that he wants done. Horace Walpole, in his "Letters," gives us many examples of the quackery of the eighteenth-century drawing-rooooms, examples which would no doubt be easily matched at the present day. He was a valetudinarian himself, and, like most of that class, he despised doctors, and had an exaggerated respect for his opinion on medical subjects. He made the mistake of thinking that interest condoned ignorance. For example, meeting his niece's husband, Lord Waldegrave, at his club, evidently seriously ill (Lord Waldegrave was sickening with severe smallpox, of which he died a few days later), Walpole's advice was, "Go home at once, my dear sir, and take James's powder. I assure you it is the one thing in the world that does good in conditions like yours." Lord Waldegrave was much obliged for the suggestion, and went home and acted upon it. Walpole was not to blame for not recognizing severe smallpox before the eruption appeared, or for not knowing the composition of James's powder; his mistake was in giving advice without knowing anything about the illness or the remedy. It is rash to say what amateurs will not do, but no respectable doctor at the present day would be so hardy as to order James's powder before trying at any rate to find out the nature of the illness. When did the change of system begin? When did doctors begin to take pains to discover what was wrong before attempting to correct it? or perhaps we should rather say, When did they begin to leave off guessing and try to investigate? It is impossible to trace all the steps of the process, and certainly the nineteenth century was well advanced before any great change occurred in this direction. England and Scotland were not, apparently, behind France in diagnostic skill. Christison, with his appreciation of humor, shows us how even a man of Broussais's position was governed in his diagnostic judgment by trifling and fallacious signs. "Coming to a patient in the ward with a pointed tongue, clean all but a streak down its centre, 'Ah!' exclaimed he, 'la langue pointue! Voila! signe infaillible d'une gastrite. Any appetite?' 'Appetite? Yes, I could eat a horse.' 'Neanmoins c'est gastrite. Any thirst?' 'No; no thirst.' 'Neanmoins gastrite. Any pain in the stomach?' 'No; none at all.' "Neanmoins voila la langue pointue; c'est gastrite! Cinquante sangsues a l'estomac!'" This was in 1820, and from a man of renown in the Paris school. At the best, under such conditions, diagnosis was only guesswork. It was not science. The nascent spirit of modern medicine may, however, be said to date from 1796, when Jenner made known his great discovery of the method of producing immunity to the contagion of smallpox by the inoculation of cowpox. He arrives at this discovery by a critical study of other people's observations, and by putting them to the test of experiment. The tradition that persons who had contracted cowpox would not take smallpox was very widely spread in the various dairy counties of England and Ireland, and in Switzerland. The virus of cowpox had even been deliberately inserted in more than one case in order to escape smallpox. It was Jenner's great glory that he tested the truth of this common tradition, and conceived the idea of passing the protective lymph through an indefinite number of human beings. In that idea lay the deliverance of mankind from a grievous plague, but it contained further the germs of a large part of modern medicine, which were destined, however, to remain quiescent for more than fifty years.

In the early part of the nineteenth century Edinburgh was for long the only medical school of fame or repute in the British Empire. The explanation of this is not difficult to find, though the conditions of the Edinburgh school, trammelled as it was by being practically controlled by the town council, were not, one would suppose, specially favorable. The higher standard of primary education in Scotland was, no doubt, an important factor. Lads of marked ability from all the parish schools were encouraged to go to Edinburgh. The cost of university teaching and living was small enough to allow many of these lads to act upon the advice, and the Scotch character helped them to distinction when they were there. It is obvious, too, that Edinburgh gained largely by the absence of competition and by the value of its professional Chairs. It not only had the pick of all the ablest students, but it attracted and kept the best professors. There was nothing in the United Kingdom which would tempt a good teacher to leave Edinburgh. In London, medical education then, as now, was carried on at many centres, no one of which could compete with Edinburgh in size or in the emoluments paid to its teachers. There was, however, a reverse side to the medal. The professors at Edinburgh, being better off there than anywhere else, stayed too long. New blood was rarer at Edinburgh than even elsewhere. The three Munros, for instance, monopolized the Chairs of Anatomy, Surgery, and Physiology for 141 years. Duncan taught as a professor for thirty-nine years, Gregory for forty-one years, Hope for fifty-three years, Thomson for forty years. It is certain that new ideas were in each of these cases not assimilated for more than a fraction of these long periods. As the professors examined their own students, the school did not suffer in comparison with others, but the progress of scientific medicine certainly suffered. On the other hand, the organization of the bedside medical teaching was much better at Edinburgh than at the best of the London schools, such as St. Bartholomew's. Even as late as 1820 Christison records that there was practically no clinical teaching on the medical side at Bartholomew's, and no students. He cannot remember learning anything at all from the three physicians there. The surgical students, of whom there were several hundreds, never entered a medical ward:—

> Nevertheless, men with only this training were passed annually in hundreds by the London College of Surgeons into the ranks of the general practitioners of England. I could thus easily understand subsequently the superiority of the general practitioners educated at Edinburgh, where medicine proper held a prominent place in the system of hospital instruction, the preference in which they were held in England, and their success and reputation, especially in most of the large English county towns.

Sir James Paget, in his autobiography, confirms all that Christison said as to the teaching at Bartholomew's at that date. In 1842 only thirty students entered there for the lectures on anatomy, and it was in that year only that physiology began to be taught as a separate subject. A few years earlier Paget could find at Bartholomew's no microscope at all when he wanted one. The importance and better organization of the medical school at Edinburgh, as contrasted with any one of the schools in England during the first quarter of the nineteenth century, make it fitting to begin the study of the progress of medicine in the century, and in the United Kingdom, with a brief mention of some of the leaders of medicine at Edinburgh a hundred years or so ago.

An early worker in the direction of scientific medicine was Dr. James Currie. He studied the effects of cold affusion in fever, and published a series of carefully recorded thermometrical observations. Currie died in 1805, and his epitaph at Sidmouth runs thus:—

Art taught by thee shall o'er the burning frame
The healing freshness pour, and bless thy name.

He was the father of much that is valuable in hydrotherapeutics. Clinical surgery was first taught at Edinburgh in 1803 by James Russell, who succeeded in getting a Chair endowed with 50 pounds a year out of "Bishops Rents." He held the Chair himself for many years, and then, at the age of eighty-one, sold it to James Syme for an annuity of 300 pounds for the rest of his life. Dr. James Gregory (1753-1821) was a ruling spirit in Edinburgh for nearly fifty years. He took over and completed his father's lectures at the age of twenty, and he was a professor himself at twenty-three. His measures for the cure of disease were sharp and incisive. Gregorian physic ruled medical practice through his pupils for many years, and in all quarters of the British Empire. He is described by Sir Robert Christison as a consummate professor and a lecturer of the highest order. He belonged to the noble army of fighters. It was greatly due to him that a permanent medical staff was appointed at the Edinburgh Infirmary. Up to this time all the members of the Colleges of Physicians and Surgeons took turns, for a month each, in attending the hospital wards, with results which may easily be imagined. The reform Gregory advocated was stoutly resisted by the two colleges, and it was the occasion of a long lawsuit. On one occasion Gregory caned a brother professor. Another lawsuit resulted, and the defendant was fined a considerable sum. He paid it with an expression of the pleasure it would give him to part with as much more if the satisfaction of "dusting" his enemy could be repeated. He said of himself that he was "irascible and obstinate, and would willingly see some of his medical enemies hanged."

Two advances of the utmost value were made about the end of the second decade of the century, and within a little of each other. Charles Bell, another Edinburgh man, demonstrated the distinction between the motor and sensory nerves, and Lænnec published in France in 1818 his "Treatise on Mediate Auscultation of the Lungs." Charles Bell worked for ten years or more at his idea before his final essay on the "Nervous System" appeared in the "Philosophical Transactions" for 1821. An earlier paper had been printed in 1816. His constitutional modesty permitted him to write to his brother: "Joking apart, I stand alone in anatomy. This business of the nerves may be long of coming forward exactly as it should; but my ambition has a rest in this—'I have made a greater discovery than ever was made by any one man in anatomy, and I have not yet done;' " and in another letter, "It is the only thing that has appeared in anatomy since the days of Hunter." It is pleasant to know that in spite of many disappointments in his life Bell recognized the immense value of the step in solid knowledge he had been able to make, and that the estimate he put upon his work has been fully confirmed by his successors. Lænnec's work on auscultation and his invention of the stethoscope were of the greatest value not only in the study of the diseases of the chest, but in the promotion of a sounder method in the investigation of morbid conditions generally.

James Syme (1799-1870) was another valiant worker towards scientific surgery. It is stated that he never attended a course of lectures on surgery, but he inaugurated a system of clinical surgical teaching at Edinburgh, outside the University, which made him famous, and through the reputation thus gained he forced his way to the Chair of Clinical Surgery, created by Russell, in less than five years from the date of his graduation. It was said of him that "he never wasted a word, a drop of ink, or of blood." He was a sort of "John the Baptist" to antiseptic surgery. In many ways he anticipated its results, and by similar though undeveloped methods. He took immense care in the healing of wounds, by extreme strictness as to cleanliness of hands and instruments, by drainage, and by the evacuation of pus wherever found. Dr. John Brown characterized him as "verax, capax, perspicax, sagax, efficax, tenax." Lord Lister became his son-in-law, and it is likely that Syme's powerful influence in the right direction did much to encourage Lister to ponder over the problems connected with the healing of wounds, and to prosecute the researches which have revolutionized the art of surgery. Dr. John Brown was apprenticed to Syme. Brown's fame is literary and personal. "Rab and His Friends" will survive the reputation of many good surgeons. He was an early contributor to the "Edinburgh Review." The last of the Edinburgh medical worthies who belonged in part to the early years of the century was Robert Christison, a man of great ability, honesty and energy. His influence was all in the right direction so far as scientific medicine was concerned. His mind was truly scientific. He looked facts fairly in the face, and questioned them by experiment. He was not bound up in the trammels of tradition and empiricism. His researches upon poisons and his works on medical jurisprudence are still valuable.

The years between 1806 and 1829 witnessed a regular succession of resurrectionist horrors and worse, both in Edinburgh and in London. The Professor of Anatomy at Edinburgh, Dr. Knox, in 1827, had a class of three hundred students to provide with material for the study of anatomy, and perhaps he had wilfully shut his eyes to the incidents which ought to have excited his suspicions. Graves were perpetually rifled of their contents, and the perpetrators were seldom caught. Several people were murdered by bodylifters. Sir Astley Cooper even said before a Committee of Inquiry in the House of Commons, "There is not an individual dies in London, let his rank be what it may, whose body I cannot have in my amphitheatre if I choose." This disgraceful state of things ended with the passing of the Anatomy Act of 1834.

About the year 1824 a powerful influence began to make itself felt in support of reform in medical education, and in medical corporations, and the person who more than anyone else created that influence was Thomas Wakley, the founder and first editor of the "Lancet." Wakley was a born reformer and fighter. His biographer says:—

> The abuses that Cobbett and his school were quick to spy out in the body political, but not always quick to persuade other people to see, were, in the case of the medical profession, bare to the casual eye. Nepotism was there rampant, ignorance was too often exalted, and pecuniary traffic determined success. The soul of the reformer had always been in Wakley, and to set right these things he determined to take the field with a weekly newspaper devoted to the interests of the medical profession. The first number of the "Lancet" was issued on October 5, 1823. It was devised to disseminate medical information primarily, and incidentally to make war upon the family intrigues and foolish nepotism that swayed the elections to lucrative posts in the metropolitan hospitals.
>
> Not unnaturally hospital surgeons and physicians were unanimous in their opposition to the new and mischievous periodical. In the first ten years of the "Lancet's" existence its editor was engaged in ten actions, six of them being for libel. The aggregate sum of 8,000 pounds was claimed as damages, while 155 pounds only was awarded by the juries, and the editor's costs were largely met by public subscription. It was mainly owing to Thomas Wakley and the "Lancet" that the medical schools and the examining bodies of London were gradually reformed, that the Medical Registration Act of 1858 was at last passed, and the General Medical Council created.

The "Lancet" was presently followed by the formation of the British Medical Association, which was represented by its journal. The Association now includes some 21,000 members, and it has done much to encourage the best interests of the medical profession and to promote research.

Turning from the political and educational side of the subject to the scientific, we see that about the middle of the century two great advances were made in the evolution of modern medicine. Anæsthetics were discovered and Virchow's "Cellular Pathology" was published.

> It is difficult to explain in simple language the importance of Virchow's work, or even the precise meaning of its title. Pathology is the science of disease, or of life under morbid conditions; it is a step beyond physiology, which is the science of life under normal or healthy conditions. No exact line can be drawn between them, because it is impossible to say where health ends and disease begins; but, obviously, pathology embraces a great many conditions beyond the range of physiology, and it is by so much obscurer and more complex. * * * Before Virchow's time disease was thought to be a sort of entity taking possession of the body or of particular tissues, and to be treated as such. Doctors treated the disease by rule of thumb; they did not treat the condition which gave rise to it, because they did not know what it was. Virchow forged the key to unlock the closed door, and established the principle upon which all subsequent study of the nature of disease is founded. He showed that the "cell" is the unit of life in morbid as well as in healthy conditions, and that every cell originates directly from a pre-existent cell. Even the most abnormal structures are derived from normal cells driven to abnormal development by injurious agencies. * * * Virchow in short, gave the art of medicine a real scientific basis.

Sir Samuel Wilks has said that Virchow came to generalize like another Newton, and to give pathologists the Principia of Medical Science.

The present theory of disease is that all disease presupposes life, and that life is the property of the cell. The activities of the cell are the expression of its life, and they are evoked by stimuli of various kinds which reach the cell from without. The activities of cells, individual or collective, are called physiological or normal so long as the general equilibrium of the organism is not disturbed. They become pathological when they overstep this limit. The conception of disease was changed by Virchow from an entity to a process. * * * It is perhaps not too much to say also that the development of our knowledge with regard to immunity to the formation of toxins and antitoxins is founded on principles which have been directly evolved from the fundamental conception that the cells in the animal body react mechanically and chemically to foreign stimuli.

The discovery of anæsthetics was made known a few years before Virchow's great work was published. Its importance can scarcely be overestimated.

The initial step towards the discovery might almost be called accidental. It had been noticed empirically that pain was abolished by the inhalation of the vapor of ether. In 1842 Long, of Georgia, operated under ether narcosis. In 1844, a dentist, Horace Wells, used it several times, and in 1846 it was given by him in the Massachusetts General Hospital while Dr. Morton removed a tumor from the neck. Morton from that date continued to use it. In December of the same year the news of the discovery reached England. Professor Simpson took it up in Edinburgh, studied the comparative merits of several chemically related bodies, pronounced in favor of chloroform, and in 1847 he published details of fifty cases in which, with perfect safety, it had been used to relieve the pain of childbirth. It was very soon applied to surgery. The enormous gain to patients from the abolition of pain is obvious to everyone, but it is not on this ground that the claim of anæthesia to be counted an important factor in the advance of medical science rests. The discovery of anæsthetics removed the necessity for great rapidity on the part of the surgeon. He was now, for the first time, able to be careful and minutely painstaking as to details. Another and less obvious result of anæsthetics was the improvement of nursing which immediately followed. So long as all surgery was torture scarcely less terrible to see than to bear, very few women were likely to adopt hospital nursing as a profession. Only those of unusually strong nerves would voluntarily place themselves in the way of having to witness, almost daily, suffering on that scale. At the time of the Crimean War this effect of the abolition of pain during operations was just beginning to be felt, and the enthusiasm called forth by Miss Nightingale's services, high character, and ability, expressed itself in the adoption of nursing as a profession by many women who would not have thought of entering hospitals as nurses in the pre-anæsthetic days. The influence of research work has also been immense and far-reaching. Spite of all that has been said to the contrary by excited and thoughtless persons, physiologists are not more cruel than other people: In their search for experimental proof of the truth or falsity of theories, operations on living animals are often necessary, and till these operations could be performed with the minimum of suffering they were very rarely done; consequently the advance of scientific medicine was slow and halting. Very little of that which we now know for certain as to the action of drugs, of physiology, and of bacteriology could have been arrived at had we been without the aid of anæthesia. It is mainly because Morton's and Simpson's discovery has made antiseptic surgery, good nursing, and medical research work possible that we claim it as one of the corner-stones of modern medicine. That there must always be a certain amount of danger in completely paralyzing the sensory part of the brain no one can doubt who is able to realize what this means, and it is best to recognize frankly that there is no such thing as absolute safety with any anæsthetic which abolishes consciousness. Local anæsthesia was made known about 1858, and the anæsthetic effect of cocaine, applied to a mucous membrane or injected subcutaneously, became generally known in 1884. It is reasonable to anticipate that local anæsthesia will in the near future be so far improved that for almost all short operations it may replace the more dangerous anæsthesia produced by inhalations. Already in the United States many important abdominal operations are done solely with the help of cocaine.

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APRIL 1, 1903

THE ANNUAL MEETING AND BANQUET OF THE HENNEPIN COUNTY MEDICAL SOCIETY

The next meeting of the Hennepin County Medical Society will occur at the West Hotel, Monday evening, April 6, at seven o'clock. The first hour will be devoted to a reception to the essayists of the evening, and at eight o'clock sharp the members will sit down to the banquet to celebrate the fortieth annual meeting of the physicians of Minneapolis and Hennepin County.

Dr. Gustav Fütterer, of Chicago, Professor of Diseases of the Stomach and Liver in the Chicago Policlinic, will read a paper on "Gastric Ulcer and Its Relations to Cancer."

The members of the profession who saw the pathological exhibit of Dr. Fütterer at the meeting of the American Medical Association held in St. Paul, will appreciate the qualifications of the essayist who reads on the subject he has chosen for this paper.

"The Surgical Aspect of Gastric Ulcer" will be treated by Dr. J. H. Dunn, who needs no introduction, and who will follow Dr. Fütterer.

The scientific part of the meeting promises to be of unusual interest and should bring out a large attendance. Members are requested to procure their tickets early that the executive committee may know how many are to be provided for.

The Hennepin County Medical Society has reason to be proud of its growth and progress. The membership exceeds one hundred and seventy-five, its library comprises about three thousand volumes, its rooms are spacious and attractive, its finances are in good shape, and, what is most important, the utmost harmony prevails among its members. The various cliques and factions which were so evident in the early days of the Society have disappeared, and the profession of Minneapolis are in accord, striving to elevate the field of medicine, promote the interests of the people, and keep in touch with the world of medicine.

THE THERAPY OF LIGHT

The use of light in the treatment of disease is increasing in about the same ratio as new machines are invented. The *x*-ray is still very much in evidence, although not carried to the same extremes as in former months. There are many advocates who believe in the efficacy of *x*-rays for all forms of malignant growths, and are demonstrating, to their own satisfaction at least, its curative powers.

The conservative experimentor is the man who, by clinical results, is recording his failures and triumphs. He is conservative enough to state that improvements have taken place in many cases while in others the result is still in doubt. The advantage of the *x*-rays over other forms of light, is its power of penetrating the body, thus reaching the deep structures and modifying bacterial toxins or changing and suspending the activity of disease stimuli. The apparent results obtained in malignant disease is still a matter for consideration and speculation, and although many seeming recoveries are recorded, time will determine the ultimate disappearance of growth and the recovery from disease. If the rays have the power of deep penetration, and are applied to the various portions of the body where malignancy may be transmitted, i. e., in the glandular structures, then may we seriously consider its curative power. Unfortunately, the *x*-rays are not infallible; shadows from a distant organ may appear on the photographed plate and deceive one as to the exact position of the lesion. One instance detailed by one of the leading surgeons of the state is an illustration of *x*-ray error. A patient with symptoms of renal calculus was advised to have an *x*-ray picture made by an expert. The plate showed very plainly a shadow in a kidney that was thought to be a stone. An operation followed, but no stone was found. Numerous instances similar in their findings have led some courts to exclude *x*-ray photographs from the evidence in the cases in which damages for needless operations have been sought, yet it is well known that metalic substances and fractured bones have been accurately defined by the *x*-ray.

The possibility of burns from prolonged or repeated exposures has led the manufacturers of apparatus to provide suitable shields to protect the body, and to compass the rays. These shields are invaluable, and should form a part of every outfit.

ULTRA-VIOLET RAYS

The method employed by Finsen, Lortet-Genoud, Bang, Görl, and others, to utilize the violet rays, have induced lamp-makers to put upon the market a lamp that is economical yet powerful. The original lamp devised by Finsen is so expensive that but few hospitals and clinics have been able to buy and maintain them. Very naturally, some ingenious and inexpensive machines have made their appearance, warranted and guaranteed to produce the desired rays at a nominal expense.

Dr. Henry G. Piffard, of New York, has devised a simple modification of the Görl lamp, and it is now manufactured by the Waite and Bartlett Mfg. Co. It has three spark-gaps protected by a quartz surface. It is compact, and readily attached to a static machine. It is convenient to use, and causes no annoyance to the patient.

The ultra-violet rays differ from the *x*-rays in their effects. They are supposed to be etheric vibrations with short wave-lengths. They can be reflected, refracted, and polarized; they will not traverse many bodies that are perfectly pervious to luminous rays, e. g., glass; they will not influence deep or superficial tissues unless dehematized; they may be stopped by a sheet of paper; they will rapidly destroy the vitality of bacteria; they will excite bright-green fluorescence in Willemite, and will traverse rock-salt and quartz. These latter tests will demonstrate the presence of the ultra-violet rays, otherwise they are invisible. Hence lamps that will not show the presence of these rays by these simple tests are not suitable instruments. A number of inferior lamps are advertised, made, perhaps, with violet globes and are called violet-ray lamps, but their therapeutic value is worthless.

The use of the ultra-violet rays is limited. So far they have demonstrated their efficacy in lupus and other bacterial skin diseases. The lamps are comparatively new, and only after an extended application to skin lesions can their value be ascertained.

A large number of instruments for light treatment have been manufactured that give results by concentration of the rays from the sun and from arc lights. Evidently they do some good by the concentration of rays on the diseased surface,—a burning, scorching or drying of the lesion. Such instruments are widely advertised to cure many diseases. They claim to produce all sorts of rays,—actinic, blue, violet, and ultra-violet. Their value lies only in their power of concentration; the results are tentative.

The light treatment like all other new forms of therapy will probably be enthusiastically overdone, and after a time will be tested by scientists for its true worth. The charlatan will reap a rich harvest with these imposing appliances, and the people will be experimented upon and victimized to their limit of endurance, and the depth of their purses.

HYDROPHOBIA TO BE TREATED AT THE UNIVERSITY OF MICHIGAN

Since many people in Michigan have in the past few months, been bitten by rabid dogs and as a considerable number of domestic animals have died of hydrophobia, the board of regents of the University of Michigan at a recent meeting decided to provide Pasteur treatment for this disease, and appropriated $2,500 for this purpose. Dr. Thomas B. Cooley, a graduate of the literary department of the University with the class of 1891 and of the medical department with the class of 1895, will have charge of this work under the supervision of the director of the hygienic laboratory.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

R. O. Beard, M. D., Secretary

Stated meeting, Wednesday evening, March 4, 1903, at the Hotel Ryan, St. Paul; the President, Dr. J. Warren Little, in the chair.

Dr. Geo. D. Head, of Minneapolis, presented a paper entitled, "Acute Miliary Tuberculosis of the Lungs," with report of a case. (See Lancet of March 15).

The discussion was opened by Dr. Gustav Renz, who asked Dr. Head if he had at any time during the case a positive Widal reaction. He had in mind a number of cases he had examined, post mortem, of miliary tuberculosis in which the Widal reaction had been present.

Dr. Head replied in the negative.

Dr. H. Longstreet Taylor, of St. Paul, complimented the writer upon his excellent clinical report. He referred to the frequent difficulty in differentiating this disease from typhoid fever. The disease frequently runs a longer course.

Dr. Head, in closing, expressed the surprise he had felt in discovering tubercle-bacilli in the patient's sputum, which was of an unsuspicious character, as also in the discovery of a leucocytosis, which was unusual and unexplained.

Dr. Arnold Schwyzer, of St. Paul, read a paper upon "The Surgery of Exophthalmic Goitre," with reports of five cases. An abstract of his paper follows:

Some Remarks on Exophthalmic Goitre With Report of Five Operated Cases

Latest investigations point more and more to the goitre as the seat and origin of this whole pathological process.

Surgery has had very good results in Graves' disease. The results were lasting and more marked than those of any internal treatment. They held good for even extreme cases.

Two organs were attacked surgically: the cervical sympathetic system and the goitre. As the advocates of the first method admit that the real seat of the trouble is either the brain or the goitre, their operation is only a symptomatic treatment and not a casual one. The results of the operations attacking the goitre or its blood supply are superior.

The personally operated case are

Case 1.—*Extreme type: Ligation of thyroid arteries. Time elapsed since operation 5½ years. Cure.*

Case 2.—*Extreme type: Ligation of 3 arteries. Time elapsed since operation over 3 years. Cure.*

Case 3.—*Severe type: Ligation of the two abnormally large superior thyroid arteries. Unpealing of left lobe in search for the inferior artery, which is not found. Time elapsed since operation, 2 years 8 months. Cure.*

Case 4.—*Severe type: Ligation of 3 thyroid arteries. Nearly complete cure 4 months after the operation. Then almost sudden death of unknown cause.*

Case 5.—*Moderate form: Excision of the larger right lobe of the goitre. All symptoms completely disappeared with the exception of a persistence of a moderate one-sided exophthalmos. Time elapsed since operation, 1 year.*

Surgical measures are even advisable in moderate forms, where internal treatment does not have a satisfactory result.

DISCUSSION

The discussion was opened by Dr. Gustav Renz, of St. Paul.

Dr. Renz said he recalled the patient upon whom Dr. Schwyzer had operated. It was a very pronounced case. He had not seen her since the operation until about a month ago, and she now seems to have entirely recovered.

Dr. John T. Rogers, of St. Paul, said he congratulated the doctor on the success of his operations and the Academy on the masterly paper which the doctor had given it.

While the treatment of exophthalmic goitre has hitherto been empirical, much work is being done to increase our knowledge of this affection. He was sorry the doctor did not discuss the etiology. One factor on which many writers lay stress is shock.

As regards operative treatment, he believed that it is too radical to be applied to all cases, though we must have great respect for Kocher's opinion. Frequently young girls are observed who get well by medical treatment. These are of course the less marked cases. He recalled a case in which, following an acute thyroiditis, there was a marked improvement in the symptoms. This patient ultimately got entirely well, save for her nervousness. As regards removal of the cervical sympathetics and ganglia, it can have no justification when the simpler operation has accomplished so much. It is an important subject as we all see cases occasionally, and in view of the success of the operative treatment, described by the essayist in his paper, he believed it would come to be a recognized plan of treatment for severe cases.

Dr. C. M. Carlaw, of Minneapolis, said that shock was considered a common cause. He had never looked upon exophthalmic goitre as a severe or dangerous disease. His experience led him to believe that internal treatment was of little value. On the other hand, patients improved when put at rest in bed. True, there are frequent relapses. The doctor cited two cases which had made complete recoveries under this plan of treatment; one being a man 75 years old.

Dr. A. M. Henderson, of Merriam Park, said that he, too, had formerly entertained the opinion that many of these cases get well, but had recently had under observation a case which died from the weakening effect of severe gastro-intestinal disturbance. Since then he had come to regard the disease more seriously.

Dr. F. C. Todd, of Minneapolis, said regarding the removal of the cervical sympathetic that he recalled the fact that operation had been done for glaucoma, and its results at first seemed brilliant, but were disappointing, as the symptoms had recurred after six months.

Dr. L. C. Bacon, of St. Paul, said he recalled a case in a very nervous young woman in whom improvement took place, and recovery followed after marriage.

Dr. Geo. D. Head, of Minneapolis, said that we should make a more accurate study of the natural history of cases. It was well known that many of these cases get well if left to themselves. He recalled two cases in which the symptoms were severe, but which made a sudden and complete recovery. If some get well, how are we to know which will not recover? The development seems to go in cycles.

Dr. J. W. Little, of Minneapolis, said that he wished to ask the essayist how to diminish the symptoms in those cases in which they are so bad as to contraindicate operation. He recalled a case seen ten years ago which got well under medical treatment.

Dr. Arnold Schwyzer, of St. Paul, in closing, said that he did not go into the etiology of the disease for lack of time. Regarding the possibility of an acute thyroiditis producing a cure, he believed it possible, and such a case should not be operated upon. Milder cases he always was inclined to put under treatment for a while, and if they improved of course they were not operated upon. Many cases met are probably not true cases, that is, they have not all the cardinal symptoms, and careful German observers reject these cases and regard them as cases of "thyroidismus."

Rest in bed is of great value in improving bad cases. Of drugs, iodine has a bad influence in most cases, but phosphorus seems to do good. In reply to Dr. Bacon, he would say that Kocher lays great stress on sexual life as an influence on exophthalmic goitre. Regarding the natural history, older writers made the prognosis very grave, almost all cases ultimately dying. By medical treatment we never know whether a patient will get well or not. On the other hand, in all cases operated upon, permanent improvement begins immediately, and is continuous, especially where a sufficient operation has been made. The temperature, pulse, tremor, and exophthalmus begin to improve at once, and continue to do so steadily until complete recovery takes place. As regards removal of the cervical sympathetic nerves with their ganglia, credit must be given for the excellent results obtained; but if we can accomplish as much by a less radical operation, certainly it is preferable, inasmuch as we do not at present know what deleterious effect the removal of the cervical sympathetics may have on other functions of the body. In very bad cases, in order to improve the symptoms, rest in bed, hydrotherapy, and phosphorus constitute the treatment employed by the speaker, and if no improvement occurred, he would operate anyhow, for the patient would in all probability die if left alone. Even if improvement took place under treatment, if the case is a pronounced one, he would say operate. At least, he would ligate the two superior thyroid arteries.

Upon motion the Academy adjourned.

BOOK NOTICES

DOES THE PRACTICE OF MEDICINE PAY? By George R. Patton, A. M., M. D., Lake City, Minnesota. Pamphlet form. Price 10 cents. Philadelphia: P. Blakiston's Son & Co.

This brochure suggested an editorial in the last issue of the Lancet.

It is capitally written by a keen observer, in a terse and authoritative way, and scintillates with axiomatic truths as well as with practical deductions based upon a long, strenuous, and successful career.

While it may prove interesting reading for the mature practitioner, it is more especially addressed to those about to enter upon active professional life.

After the writer had received nearly 700 requests for the article, the publishers, Messrs. P. Blakiston's Son & Co., solicited the permission of the Lancet to republish it to meet the demand therefor, and they have issued it in neat pamphlet form.

THE SURGICAL DISEASES OF THE GENITO-URINARY ORGANS. By E. L. Keyes, A. M., M. D., LL. D. Consulting Surgeon to the Bellevue, and Skin and Cancer Hospitals; Surgeon to St. Elizabeth Hospital; formerly Professor of Genito-urinary Surgery Syphilology and Dermatology at the Bellevue Hospital Medical College, etc., New York; and E. L. KEYES, JR., A. B., M. D., Ph. D., Lecturer on Genito-urinary Surgery, New York Polyclinic Medical School and Hospital; Surgeon to the Out-Patient Department, St. Vincent Hospital; Physician to the Venereal Clinic, Out-Patient Department of the House of Relief of the New York Hospital, etc., New York. A revision of Van Buren and Keyes' text-book, with One Hundred and Seventy-four Illustrations in the Text and Ten Plates, Eight of Which are Colored. New York and London: D. Appleton and Company.

The marked progress in surgery of the genito-urinary organs during the past ten years has rendered the older text-books on this subject nearly obsolete, and the profession has had to depend upon the innumerable articles in the medical press to keep up to date. It is certainly refreshing that a man of the experience and ability of the author of this volume has culled from this mass of literature the essentials, and given us in a well planned volume the gist of the entire subject.

The book is systematically arranged, and each subject is taken up and dealt with in a way that makes it easily accessible to the busy practitioner. The style is explicit and never verbose, which, with the fine vein of humor running through it, makes it very enjoyable reading.

The perennial subject of urethritis is given its necessary prominence. The new methods of treatment are discussed, and the necessity of care in diagnosis and intelligence in treatment clearly brought out. The author decides in favor of irrigations when rightly used, and takes the middle ground in prognosis of gleet.

The chapter on stricture is a masterpiece, and is full of caution for the inexperienced.

The subject of prostatic hypertrophy is very ably handled, and the information and illustrations on this topic alone are sufficient excuse for the publication of the volume. The different operations are discussed, several being relegated to deserved oblivion; and the fact that no one operation is suitable to all cases is clearly brought out.

Stone in the bladder and its treatment by lithotomy and litholapaxy receive proper attention.

Modern surgical methods of dealing with the kidney are thoroughly explained.

The minor but more common subjects of circumcission and hydrocele receive due consideration, and every branch of genito-urinary surgery is included.

The book is printed in clear type on good paper, well illustrated, and neatly bound.

HERBERT W. JONES.

ANATOMY OF THE PERITONEUM AND ABDOMEN. By George S. Huntington, M. A., M. D.; Professor of Anatomy in the College of Physicians and Surgeons, New York City. New York: Lea Brothers and Company.

This book will be a revelation even to good anatomists who have gained their knowledge from our standard works on anatomy and from an average dissecting-room experience. The author begins with the vertebrate ovum, and carries the reader along step by step through its various stages of development until all of the abdominal organs are fully developed and are bearing their permanent relations to the peritoneum. Comparative anatomy is employed very extensively both in the text and in the illustrations, giving one a better understanding of the subject than he could possibly gain if only human anatomy were considered.

Every surgeon will be interested in Part IV, entitled, "Morphology of the Human Cecum and Vermiform Appendix." Under this heading the development of the cecum and appendix is given in detail. By following the description of the rotation of the intestine from left to right, and the subsequent descent of the cecum, as they occur during normal development, one can readily understand that some of the positions and peritoneal relations of the cecum and appendix, which we are prone to consider pathologic, may be but slight variations of a normal process. In this chapter a very interesting description of the variations in shape and position of the cecum and appendix, and of the origin of the appendix, is given.

Anatomy is now but one of several laboratory studies in the medical college curriculum, and at first blush does not seem to occupy the prominent position it did when it was the only one, but there never was a time when anatomy was so thoroughly taught or so fully appreciated as the present, and this book of Dr. Huntington's will be welcomed alike by student and practitioner. The former, who is apt to consider the study of embryology an unnecessary hardship, will here find it so blended with anatomy that he cannot fail to appreciate its practicability, and the latter will here gain newer and better ideas of anatomy.

The publishers have made one of the finest medical books ever printed.

James E. Moore.

NEWS ITEMS

NORTHWESTERN NEWS.

Dr. H. J. Seeman has moved from Dell Rapids to Baltic, S. D.

Dr. C. K. Stewart, of Byron, Minn., has located in Janesville.

Dr. H. W. Shaw, of Galliopolis, Ohio, has located in Albee, S. D.

Dr. Per Oyen, of Kindred, N. D., has moved to Colfax, in the same state.

Dr. F. R. Wright has returned to Minneapolis after a nine months' trip to Europe.

The report that Dr. Malcom McKinnon would leave Fosston is positively denied.

Dr. O. C. Tarbox, of Princeton, has bought a practice at Oneonta, N. Y., and will locate there permanently.

Dr. H. M. Trankle, of Wabasha, who had planned to locate in Idaho, has decided to settle in Andover, S. D.

Dr. E. W. Dickinson, a graduate of Rush, who has been practicing a short time in Akeley, has located in Tenstrike.

Dr. W. T. Stone, of Park Rapids, Minn., announces that he will rebuild his hospital, recently destroyed by fire.

The American Electro-Therapeutic Association announces that its thirteenth annual meeting will be held at Atlantic City, N. J.

Dr. P. N. Kelley, of Wabasha, died last month at Pine Island, the home of his parents. Dr. Kelley was a graduate of McGill, Class of '84, and located in Wabasha in 1891.

Dr. Wm. F. Clarkson, of Butte, Montana, died last month from typhoid pneumonia. He was a graduate of the Baltimore Medical College, and was 28 years of age. His home was in Brooklyn, N. Y.

Dr. H. E. McNutt, of Aberdeen, S. D., has received many tokens of appreciation from physicians for the part he took in securing the passage of a medical practice act through the S. D. legislature. This act is very stringent, and will keep out both "visiting" doctors and local quacks. It makes proper provision for surgeons and physicians called from other states in consultation and for operations.

The American Congress on Tuberculosis will hold its next meeting in St. Louis, July 18 to 23, 1904. A thorough reorganization of the Congress is to be made, and some of the best known medical men in the country are on the Advisory Committee to assist in the plans for the next meeting. Dr. George Brown, of Atlanta, Ga., is the secretary, and will cheerfully furnish information to interested persons.

The Aberdeen District Medical Society held its annual meeting in Aberdeen, S. D., on March 18th, and elected the following officers for the current year: President, Dr. C. B. Mallery, Aberdeen; vice-president, Dr. L. A. Pickering, Warner; secretary, Dr. H. J. Rock, Aberdeen. Dr. W. E. Edgerton, of Faulkton, Dr. R. D. Alway, of Aberdeen, and D. B. Mallery, of Aberdeen, read papers and presented cases.

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THE CHRONIC ROUND, SEPTIC, PERFORATING ULCER OF THE STOMACH*

By Gustav Futterer, M. D.

Professor of Diseases of the Stomach and Liver in the Chicago Policlinic

CHICAGO

Mr. President and Gentlemen:

I have been honored by an invitation from your Society to address you on the night of your annual banquet, and I have chosen as my subject the chronic round ulcer of the stomach. This choice was made for various reasons, most particularly because I thought it would be useful to bring out and emphasize a few points which do not receive, but which deserve, our most serious consideration.

Before I enter into my subject, allow me to thank you most heartily for the honor conferred upon me, and to assure you of my deep appreciation of your courtesy.

As much as possible, all clinical work should be based on pathological knowledge, because such knowledge gives us a deep and clear insight into the causes of the disorders which the clinical picture reveals in the form of symptoms, and it saves the sad and disappointing task of memorizing clinical pictures from text-books, as it puts us in a position to construct them ourselves, and that, in the widest sense, with most of their variations. This is particularly true with the ulcer of the stomach.

The course of such an ulcer is sometimes very acute, and therefore the term *chronic* does not always apply. The indiscriminate use of the word *round* may also be criticised, as a great many ulcers are not round, but have all kinds of irregular shapes.

FORMS OF ULCER

We may say that the typical form of ulcer of the stomach, which was first described by Cruveilhier in the year 1829, is round or oval. The round defects look as if they had been cut with a punch, but not through all the layers of the wall of the stomach at the same time. The defects in the deeper layers become successively smaller, so that the ulcer resembles the shape of a funnel, penetrating the stomach-walls in a diagonal direction, like the arteries. The edges of the defects of the deeper layers project, so that the defect of the mucosa is the largest and that of the deepest layers the smallest. No formation of pus is to be observed.

An ulcer may be small, or it may reach the size of a hand, then becoming more and more irregular in form. Through confluence of a number of ulcers, very irregular forms may also be created. Then there are very superficial ulcers, which just eat away the mucous membrane in the pylorus, or in other parts of the stomach, and which can easily be overlooked at post-mortems and surgical operations. Not only these, but other ulcers may easily be overlooked by a surgeon during an operation, even if he takes great pains to find them.

There are, furthermore, circular ulcers in the pylorus, in the cardia, or in parts of the stomach proper; but more interesting, while more frequent, is a larger and deep ulcer, which is often called ear-shaped. I do not call them ear-shaped, for, as seen on the surface, they have no characteristic form resembling the shape of an ear, nor any other typical form. They are simply irregular. To designate them as a class of particular clinical importance, differing somewhat from that of the typical, as a rule, smaller round ulcer, we might call them *the large, deep, irregular, or multiform ulcer.*

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*Read before the Hennepin County Medical Society, Minneapolis, April 6, 1903.

While, as I have said, the surface form of those ulcers has nothing characteristic, I have often found that their profile has. If we find such an ulcer in the pyloric region, and if we expose the profile by cutting through the ulcer in the direction of the long axis of the stomach, we will often notice a rounded upper margin and a deeply undermined lower or pyloric edge which gives the profile of the ulcer a typical fishhook-shape, and *that I consider of the greatest clinical importance, because the point of the fishhook is the place where carcinoma develops.*

LOCALIZATION OF ULCER OF THE STOMACH

The localization of an ulcer is a matter of great concern, as its prognosis varies very much with its localization. So an ulcer at one of the curvatures may open up a larger blood-vessel, an ulcer in the pyloric region, a branch of the arteria pylorica, or it may perforate into the liver. One in the pylorus or cardia may cause a stenosis of these orifices. One in the stomach proper may be circular, and cause an hour-glass contraction of the organ. An ulcer of the posterior wall may open up the arteria or vena lienalis, while an ulcer on the anterior wall is most prone to perforate into the peritoneal cavity, as the anterior wall of the stomach is so far away from the abdominal coverings that adhesions which would prevent a perforation into the peritoneal cavity are not apt to form. If they are present, however, then a secondary perforation through such adhesions may lead to the formation of a subcutaneous abscess, or, if the perforation occurs through the skin, a fistula is formed. Perforations may also occur into the colon, the gall-bladder, the pancreas, with the formation of a pancreas fistula, the spleen, with the formation of an abscess, the bursa omentalis, or into the space between stomach, diaphragm, and liver. We may also have perforations through the diaphragm into the pericardial cavity, or, in case of pericardial adhesions, into the heart itself, further into the left pleural cavity, or, in case of pleuritic adhesions, into the left lung and into the bronchi. The pancreas, as a rule, offers a good protection against a perforation, and so does often the left lobe of the liver, as both parts develop an interstitial inflammation, the firm connective tissue products of which often limit progress of the ulcer. If no adhesions are formed with surrounding organs, then perforation may occur directly into the peritoneal cavity, stomach-contents enter it, and shock or a very acute purulent peritonitis end life.

FREQUENCY OF ULCER AS TO SEX AND TIME OF LIFE

The frequency of ulcer differs in different countries, but on an average it may be put in Europe, where large statistics have been collected, at 5 per cent. The percentage in Berlin is 2.7; in Munich, 1.23; in Kiel, 8.3; at Jena, 10; and in Kopenhagen, 13 per cent. In certain districts of Germany, the Rhön, in the Bavarian Alps, and also in Russia, the ulcer is of very rare occurrence; and it should be mentioned that the people in those districts live mainly on vegetable food. They are not anemic, but a very healthy rugged people. It has been said that the greater amount of kalium brought into the body with the vegetables might be of importance.

The ulcer occurs more frequently in the female than in the male, and the relative frequency between the two is about 1 to 2.

As to the time of life, the ulcer very rarely occurs before the age of fifteen, is observed mostly between twenty and forty, and shows the greatest mortality between forty and sixty years.

CAUSES

Many causes have been recorded, such as coarse food, very hot food, traumatic injuries, spastic contractions of the stomach, hyperacidity, hemorrhages, thrombosis, embolism, atheroma, suppression of menstruation, skin burns, chlorosis, and other anemias; and they no doubt all have something to do with the formation of an ulcer, but I would put it a little differently. I think that, as a rule, two and sometimes three factors come into play. The first factor is an anemia, particularly in the form of a chlorosis, or more frequently a secondary anemia, after the age of twenty-five, which is, as a rule, caused by disturbances of digestion and assimilation. The latter is by far the most frequent cause, and the ulcer is most frequent during the years when such anemias principally occur. In women neglected chlorosis and neglected or not properly treated catarrhal conditions, and dilatations of the stomach, lead to such an anemia, and in men, also, catarrhal conditions and less so dilatations of the stomach, which here also, although, as a rule, later than in women, produce anemia. Anemias from tuberculosis, malaria, and syphilis also have to be considered.

The second factor comes into play inside of the mucosa of the stomach, and is of such a character that it again lessens the blood-supply in a circumscribed part of the generally anemic stomach. This is brought about in younger years by everything that causes a contraction of the blood-vessels of the mucosa, spastic contraction of the stomach, vomiting, and chemic, thermic, and probably traumatic influence, and in later years by atheroma of the arteries of the stomach, probably by far the most important local factor in men.

The third factors act from within the cavity of the stomach, and they are either—I think that to be by far most frequently the case—a normal gastric juice, or hyperacidity or hyperchlorhydria, which causes a quick digestion of the circumscribed thoroughly anemic portion. Another but rare causative factor of this kind is direct traumatism, which destroys an anemic portion of the mucosa, exposing it to digestion.

As you all know, hyperacidity has been considered the main cause of ulcer formation, but my experimental work has led me to conclude that its importance has been much exaggerated. Still, I believe that hyperacidity is of some importance, as an anemic part of the mucosa will probably fall a prey to digestion easier with hyperacidity than without it, and particularly as hyperacidity cannot only prevent the healing of an ulcer to some degree, but can cause its enlargement by causing arteries, which pass through the ulcer, to contract, in this way depriving their territory of the normal blood-supply.

Time does not permit my going into detail to show how my opinion on the different etiologic factors was formed, but I have come to my present conceptions of the etiology after many years of careful thought, clinical observation, study of the literature on the subject, and a great deal of experimental work.

On the etiology depend both the mode of treatment and the prognosis.

SYMPTOMS AND DIAGNOSIS

The diagnosis of ulcer of the stomach can easily be made when the classical symptoms are present, but we should only diagnose about 80 per cent of the ulcers if we always required them to be present for diagnosis. Pain is the most constant symptom. It is of varying character, but mostly sharp and burning. The pains generally commence shortly after meals, lasting from a half hour to an hour and a half, or for a number of hours. The pain is sometimes produced or increased by pressure. It is generally well localized, but sometimes diffuse in character, and often accompanied by pains in the back. The localization is mostly under the processus xyphoideus, and very trying deep pains are sometimes observed when the stomach becomes adherent to the pancreas. The pains sometimes run to the right mammilla, into the right liver region, and deeper and laterally to the lumbar nerves. Neuralgic pains are frequent; the vagus may be affected, and this, in a reflex way, can bring on asthmatic paroxysms. It is somewhat characteristic that change of position often relieves the pain.

Vomiting is frequent, starting, as a rule, as a regurgitation, but some patients commence to vomit early, without apparent cause. The masses which are vomited are generally very sour, and they often contain more or less blood, which is frequently black, from the action of hydrochloric acid.

The epigastric region is often normal to palpation, while, again, it may show a good deal of tension. Dyspeptic symptoms are mostly present, but the appetite may be normal for a time, while it is sometimes exaggerated, and lessens in the later stages, often changing to disgust against all food. But patients with a good appetite are often very much afraid to eat, on account of pains which the ingestion of food produces, and this is quite characteristic for ulcer.

The tongue is, as a rule, clear, but it becomes more and more covered, as the catarrhal condition that accompanies the ulcer develops.

The bowels are mostly constipated, or constipation changes off with diarrhea, and the stools often contain dark blood when a hemorrhage has occurred from the stomach. It happens that large hemorrhages from an ulcer pass off with the stools, altogether without any blood being vomited.

Hyperacidity or hyperchlorhydria is often present, but not of very great diagnostic importance.

I have mentioned the principal symptoms, but they are not always to be observed, and it is my rule to act as if my patients had ulcers, if they are anemic, if they are of an age when ulcer occurs, if they have suspicious painful sensations in the stomach, and particularly if they are afraid to eat coarse food, or if a traumatism has occurred in the gastric region. In such cases I recommend a thorough ulcer treatment, and I do not introduce a tube for diagnostic or other purposes.

The differential diagnosis has to be made between gastric and duodenal ulcer, but that is often impossible. In duodenal ulcer the pain usually extends more to the right; there is no hyperacidity in the stomach, no vomiting, and the blood generally passes with the stools only.

Hyperacidity is of importance for the differential diagnosis between ulcer of the stomach and gall-stones, and gastralgic pains are characterized by their coming in attacks with sometimes very long intervals, during which the patient is perfectly free from pain. They are not brought on by much eating of coarse food, and are lessened by pressure while they are increased by pressure in ulcer. If we have to make the differential diagnosis between ulcer and carcinoma, then we have to consider age, cachexia, but particularly the acidity, which is often increased in ulcer, and lessened or missing in carcinoma. But it must be remembered that there may be an increase of hydrochloric acid in cases of carcinoma originating from an ulcer. A history giving account of a previous ulcer, speaks very much in favor of carcinoma, the more so the longer symptoms of ulcer have existed, and the later in life they have presented themselves.

PROGNOSIS

Concerning the prognosis in gastric ulcer, we must admit that it is hard or even impossible to make one in the individual case. In general it may be said that the ulcers have no tendency to heal as long as a certain degree of anemia exists.

The very superficial ulcers may heal easily without leaving a trace, and the typical round and oval ones also heal well under proper treatment, but the large deep ulcers with atheroma of the arteries may cause more serious troubles, even when they have undergone cicatrization. As we are unable to determine the localization and exact character of an ulcer, and as the prognosis differs very much according to its localization and character, it is advisable to make a doubtful prognosis in all cases. I generally call the early prognosis good, and the late prognosis, at least in the larger ulcers, bad, because carcinoma is so very apt to develop from them. I therefore advise patients with such ulcers to live on soft food, masticate their food well, and in higher age take taka diastase to convert the carbohydrates into grape sugar. I also recommend a good deal of fat, to keep the edges of the ulcer slippery. All this to better the prognosis.

TREATMENT

The ideal treatment is of a preventive character, and the coming of many ulcers may be prevented by an early and intelligent treatment of chlorosis and the different forms of secondary anemia and their causes, such as catarrhal conditions of the stomach and dilatations of this organ.

Medical treatment should be instituted as early as possible, either in a hospital or at home, with a trained nurse. If a patient cannot give up work, a solution of nitrate of silver, five grains to five ounces of water, should be given in tablespoon doses, undiluted, on the empty stomach three times a day, with milk diet after one or two bottles of the silver solution have been given. Carlsbad salt, a teaspoonful in a cup of warm water, should be given twice or three times a day. Bed treatment is much better. As I consider it most essential to correct the anemic condition first, I at once, in every case, also right after hemorrhages, commence to give the juice of four pounds of beef a day, and I continue this until the hemoglobin percentage is normal, or nearly so. From the commencement of the treatment the patient must be kept quiet in bed, covered up, with a warm water bag on his stomach. When beef juice is given, rectal feeding is unnecessary. I give two or three quarts of milk a day from the start, and the above-mentioned solution of nitrate of silver. After the hemoglobin percentage has become normal, the stomach is to be kept perfectly empty for a few days, and then milk and beef juice are again to be given, the former until the patient has been in bed for six or eight weeks, and the latter only until the hemoglobin has again been brought up to normal, or nearly so. Then the patient may get up and commence carefully to eat solid food, which is to be especially prepared for the patient. I give special directions for the preparation of every article of food that the patient is adyised to eat. Hospital food will not do. While I share fully in the generally prevailing good opinion of the so-called Leube's treatment, I do not believe that it takes the great importance of anemia sufficiently into account. I would lay particular stress just on that, and I am convinced that by doing so, and by giving large quantities of properly prepared beef juice right from the start, we bring about an early healing of the ulcer, where that is at all possible, thereby shortening considerably the period of danger from hemorrhage and perforation, and also lessening greatly the danger of later development of carcinoma.

FOR DISCUSSION OF THIS ARTICLE, SEE PAGE 136

GASTRIC ULCER FROM A SURGICAL POINT OF VIEW*

By James H. Dunn, M. D.

Professor of Surgery, University of Minnesota

MINNEAPOLIS

So long as the indications for operative interference in any disease, presenting both medical and surgical stages, are sought only in its deadly complications, the results are and must be small. Only after the true natural history of the disease in its whole course is understood, and preventive surgery adopted in its treatment at the proper stage, does operative interference take its proper place or achieve results worthy of the art. Fragmentary notions of certain phases of gastric ulcer have long been entertained, just as certain phases of certain cases of cholelithiasis were long ago all too strikingly sketched by the great clinicians, but we are only just beginning to get a connected history of these affections. As in many other internal diseases we begin to see that some features of a few gastric ulcers have been recognized as the disease, and because the patients failed to die of these symptoms we have cured them, time and again, not only of the recognized symptoms, but also of numerous others which we regarded as other disorders, while in fact the same disease has been affecting the patient all the time.

The voice of the practioner who, not many years since, testified so vehemently to curing hundreds of consecutive cases of appendicitis without the knife, is no longer heard in the land. He has at last been forced to recognize a few lapses in his formula. Only those cases that appeared to get well were appendicitis according to his simple gospel; the mortal ones were so different that he did not recognize them, so that even his cures were mostly only apparent and not real cures at all. We have all seen these cases die cured all the way from ten weeks to ten years afterwards. In fact, what this enthusiastic Esculapius didn't know about appendicitis, pretty nearly covered the whole subject, barring a very few of its minor symptomatic phases. Even his noble opponent, the advocate of always using the knife at all times and under all conditions, has been somewhat tamed. He knew some things, and they were indeed more tangible things, obtained from seeing into the abdomen, but he, too, in his haste jumped at the conclusion that he had discovered all about the disease. Time and experience, clinical and operative, have shown us the protean phases of this affection, and placed its frequency beyond the suspicions of the most suspicious. We have been taught how to reduce its mortality to a fraction of its former figure, and how to reduce its morbidity, its complications, and its sequelæ to nearly nothing, while those formerly recognized were once small, we now know, only in comparison with those which were unrecognized. We are all too prone to forget that nearly all good surgery, as well as nearly all rational medicine, is preventive. This is no discredit to either art. It is only the fool who persists in striving to do the impossible. In medicine there are a few generally admitted specifics, but surgery is in its last analysis always preventive or plastic.

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*Read before the Hennepin County Medical Society, April 6, 1903.

We are learning that ulcer of the stomach is much more frequent than generally supposed, especially in the male. According to Welch and others five per cent of autopsies show evidences of past or present gastric ulcer. Some have supposed the disease ten to twenty times more frequent in women than men. Two or three times as frequent in the female it may be, but it is certainly not rare in males. In 7,700 autopsies Stowell found gastric ulcers about as frequent in men as in women. Less than a third of the cases are recognized because many run a quite latent course, but chiefly because the average practioner's concept of the disease is faulty, and hematemesis occupies too prominent a place in his symptomatology. In the same way, until recently, only colics and jaundice raised in his mind the thought of gall-stones. Medical treatment, always regarded as uncertain and troublesome, is being found more fallacious just as it has been in cholelithiasis and appendicitis. A period of latency does not indicate cure in any of these affections; it is a part of the natural course of the disease as it is being revealed to us. The chief complications,—hemorrhage, perigastritis, perforation, etc.,—are perhaps the best understood phases of gastric ulcer. The great mistake is in regarding them as indications for surgery. True, operative interference for these catastrophes may occasionally save a life, but in most instances these grave complications should be anticipated by timely interference upon the general indication of a chronic ulcer with which non-operative treatment cannot rationally be expected to deal efficiently.

It seems strange that another danger, that of allowing a chronic ulcer to exist for months and even years, should not have sooner impressed itself on the professional mind. Trousseau believed even that there was an antagonism between ulcer and cancer, but recent research has shown what might have been predicted from analogy, that many gastric ulcers eventually become cancerous. This fact has been abundantly proven from every conceivable point of view. Just how great a factor ulcer is in the etiology of gastric carcinoma is still unknown. Rosenheim claims that 5 per cent of gastric ulcers become cancerous, and Robert holds that 9 per cent of gastric cancers result from ulcer. Others take far extremer views. We are much indebted to our distinguished colleague, Dr. Fütterer, for his valuable labors upon this problem. After you have been instructed by his exact and scientific paper it is perhaps presumptuous on my part to dilate upon it, but since it is often well to compare expert scientific work with less specialized observation, I venture to remind you of certain general facts.

Carcinoma is one of the most destructive diseases of middle and advanced life, and the stomach bears about one-third its incidence. Virchow held 35 per cent of all cancers to be gastric. As to the cause of cancer we are strikingly rich in theory, but singularly poor in established fact. However, few diseases are due to a single cause, and doubtless several factors enter into the causation of this dread disease. I dare say, however, of all the many suspected etiological factors none is so well established as that of chronic irritation. For generations one of the best established and most generally recognized facts about its causation, is that certain forms, at least, are induced by chronic irritation. Given a defect in an epithelial-clad structure, prevent its proper healing and subject it to moderate irritation, and it is only a matter of time until carcinoma results. Ulcers of the skin or mucosa ultimately become malignant, if the subject lives long enough. Age, predisposition, location, and possibly many other factors may play a part to hasten or to retard the inevitable result, but we are only practically sure of this, that soon or late an irritated ulcer becomes malignant. I have seen it result in a few months, more often after many months or after several years, and up to twenty years. In one case a boy was burned at four years of age. Through faulty treatment the ulcer never fully healed; at the end of nineteen years of alternate advance and retreat of the healing process, malignant proliferation set in rapidly, and destroyed the twenty-three year old youth in a few weeks. Were this fact not so well established by the unanimous experience of general surgeons I might cite a score of exquisite instances from my own personal observation where simple ulcerative processes in the most various locations under prolonged irritation have, in the course of time, ended in disaster, in both sexes and at all ages.

Whatever the direct cause of cancer may be, I assume that it is not necessary to re-array the indisputable and voluminous evidence that chronic irritation of defective epithelial tissue is the chief predisposing cause.

Surgery of the stomach is most largely concerned with its two most frequent and serious organic diseases,—ulcer and cancer. Ulcer of the stomach is not a rare disease; it is often allowed to pursue a most chronic course, extending over months and years, presenting the most ideal conditions for the development of carcinoma, if any analogy may be drawn from extenal ulcers subjected to prolonged injury or irritation. Recently, since the stomach has been opened up to more exact exploration and observation by abdominal surgery, we are getting more direct evidence of the transition of the benign to the malignant process.

Wherever located we succeed in curing cancer only in the pre-cancerous stage or in its very beginning. Once well initiated, or advanced beyond certain limits, carcinoma is, for practicable purposes, incurable. If this simple premise be admitted, what in the present state of our knowledge is the rational course in organic disease of the stomach? Evidently to heal stomach lesions as promptly as possible, and to explore all suspicious cases that malignant processes may be attacked, if at all, in their inception. True, this plan will, so far as we can now see, never conquer the major portion of cancers of the stomach, because cancer here, as elsewhere, often runs a perfectly or nearly latent course until it has passed control, and it is really with ulcer and the considerable percentage of cancer which follows chronic ulcer that most is to be achieved.

For the awakening of the profession to a rational attitude toward stomach disorders, we are under great obligation to the Drs. Mayo of Rochester, Minn. For advanced practical common-sense views in stomach surgery no one in America or abroad has perhaps done more. The profession is awakening to the fact that an unhealed ulcer of the stomach, though latent, is pregnant with many dangers. Instead of looking for perforation or dangerous hemorrhage, or pyloric obstruction and other causes of sudden death, as indications for operation, we are beginning to look upon the prompt recognition and healing of the ulcer as of prime importance. If acute ulcers were properly treated medically, and all chronic ulcers submitted to timely exploration, deaths from perforation, perigastritis and hemorrhage, malignant degeneration, etc., would be greatly reduced, and much invalidism and suffering prevented. If this is to be accomplished, our views must be entirely recast, especially as to the indications for stomach surgery. Until very recently the physician looked upon such complications as the true indication for stomach surgery. Interference based upon such ignorant indications may at best only occasionally succeed in giving relief.

For my part the premier indication for surgical interference in gastric ulcer is this: As soon as a few weeks of rigid and appropriate medical treatment, followed by reasonable care for some months, fails to restore gastric function, exploration should be advised. All very chronic ulcers and serious motor disturbance following a clear history of gastric ulcer should be explored. The deadly complications of ulcer should in large measure be prevented. They should not be kept in the professional mind as the indications for surgery. Thus hemorrhage as an indication for operation I find obscures the professional mind greatly. I have often been called with a view to the question of operation in the presence of hemorrhage. With few exceptions it is a bad time to operate. So far I have never operated in these cases for hemorrhage *per se*. Hemorrhages are rarely directly fatal. Patients who have lost large quantites of blood are not in a good condition for operation, and the mortality is great. Direct control of hemorrhage is rarely practicable, and though gastro-enterostomy has been successfully done for hemorrhage this proves absolutely nothing, since, as a rule, the hemorrhage stops short of direct death. Many practitioners and patients who are ready for anything during a severe hemorrhage, neglect the ulcer before and after the scare is over. They look for indications—of impending death. The true indication is, Heal the ulcer, without operation, if possible, in recent cases, and by operation at the best opportunity in recurrent and chronic ulcers.

At the present time the operative treatment of gastric ulcer is mostly indirect, i. e., by gastro-enterostomy, pylorectomy, Finney's operation, etc. This method has proved itself of great value in certain cases, and, in the nature of things, will doubtless retain a large field of usefulness; but it is far from an ideal measure except in certain cases. Whenever practicable, without too greatly increasing the immediate danger, the ulcer should be removed, especially the old chronic ones; and I believe the tendency will be to the more rational excision rather at the primary or at a secondary operation. So large a percentage of ulcers occupy the lesser curvature and posterior wall, where excision becomes especially difficult without a considerable mortality, or the patient, from dread of the knife or lack of rational advice, has reached a precarious state contraindicating or rendering hazardous radical measures, that gastro-enterostomy, with its measure of relief, is gladly accepted by the surgeon. The more pyloric obstruction complicates the ulcer, the more satisfactory are the indirect procedures; but as ulcers of the stomach come to exploration before complications develop, the indirect procedures will lose much of their *raison d'etre.*

With earlier diagnosis, more prompt interference, and the improvement of technic which is sure to follow, may we not hope to greatly extend the direct surgical treatment of ulcer of the stomach? I certainly think so. In an otherwise healthy organ it is hard to bring one's self to buckling up the stomach to the intestine, and leaving the ulcer untouched, hoping to aid its healing by more rapid emptying and a decrease of hyperacidity. Certainly, not all ulcers heal after this procedure.

When all the facts are known many disagreeable features of this indirect method of dealing with gastric ulcers will crop out. In some of my cases the direct relief has been great and something to be thankful for, but there are still evidences that the ulcers are not always healed. It is the low mortality-rate, with its undeniably decided palliation, especially in the class of ulcer cases heretofore most operated upon, which lends to gastro-enterostomy its chief attraction. In the small percentage of cases in which excision of the ulcer is now practicable without greatly increasing the dangers over and above those of gastro-enterostomy, there can be, I think, no great question as to the desirability of choosing the former. Indeed, to use an Hibernicism, one of the incidental dangers of gastro-enterostomy is its safety. It is an operation which the mere operator may execute with less direct mortality than future misery, and the mere operators operate not wisely, but too well.

In conclusion, the profession at large having had its eyes opened most astonishingly to appendicitis, and to cholelithiasis, is soon to relearn something of the stomach. It will then no longer be satisfied with prescribing barrels of pepsin, but will exert itself to find out definitely what is wrong, and employ rational remedies to right it. Our present greatest needs are—

1. Better diagnosis. As elsewhere in abdominal diseases, this will result from the combined observations of surgeons and physicians. As in other instances, the physicians will be slow at first to profit by the disclosures of the surgeons, and argue from their old one-sided facts. The surgeons will probably draw at first rash conclusions as to their results, and only after we have both learned to recognize the disease in all its phases, and experience has proven the best procedures, shall we arrive at something like a general agreement as to diagnosis, prognosis, and treatment.

2. A general recognition of the limitations of medical and of surgical treatment, thus enabling us to adapt each to proper conditions. Especially should the physician learn to look upon surgery as a preventive, and not a directly curative, resource; then he will not call upon the surgeon to operate for general peritonitis, but to remove lesions that lead to it. He will call us before, rather than after, perforation; before, rather than after, carcinomatous degeneration; and he will be most anxious to see us, not in the midst of torrential hemorrhage, but at a time when we may accomplish something worth while.

3. The surgeon will also have to learn his limitations; in what stages and conditions to respect non-operative treatment, not to make his diagnosis too largely with the knife; and, most difficult of all, when to adopt direct, and when indirect, methods.

DISCUSSION OF THE PAPERS OF DRS. FUTTERER AND DUNN

Dr. James E. Moore—

I like the trend of both papers we have heard because they advise that the physician and surgeon get close together. For well established malignant disease of the stomach, surgery has very little to offer. If, as Dr. Fütterer believes, gastric ulcer stands in a causative relation to all cases of carcinoma of the stomach, it is our duty to make an early diagnosis of gastric ulcer and to operate upon all cases that do not respond promptly to medical treatment.

Dr. H. L. Staples—

From 2 to 10 per cent of all necropsies in adults show cicatrices or existing gastric ulcers. These occur with much greater frequency than supposed, and, in the majority of cases, are unrecognized.

Dyspepsia, as a term for stomach diseases, covers a multitude of sins in diagnosis. Gastric ulcer is at first a strictly medical disease and can be cured in most instances by rest, rectal alimentation, and the administration of hemoglobin, as suggested by Dr. Fütterer. Later it becomes surgical, and unless removed is converted into carcinoma by constant irritation.

When we consider the delicate structure of the organ, it is little wonder that the fusel oil and other deleterious substances swallowed by the alcoholic, the bitters, fried foods and caustic condiments taken by all, prevent healing, and cause malignant disease.

There are no characteristic differences in the blood between the anemia in the ulcer and cancer, so that it is sometimes impossible to determine accurately which malady exists.

By J. T. Moore—

I do not feel qualified from personal experience to discuss the very able papers to which we have just listened. I have seen a number of cases, both in hospital and in private practice but my experience has been that the physician is frequently not consulted until some severe symptom—such as hemorrhage, perforation, etc.—sets in when it is late to do much, either medically or surgically.

I wish to congratulate the essayist for new theories which he has advanced regarding the relationship between gastric ulcer and gastric cancer. His paper certainly bears evidence of considerable individual research on his part.

The subject of chronic perforating ulcer of the stomach is instructive, from the fact that so many writers hold such divergent opinions as to its etiology. Some argue that anemia is a causative factor in its production; that because there is a decreased alkalinity of the blood in anemia, therefore deficient alkalinity of blood causes ulcer. Others believe a disturbance of blood alkalinity has nothing to do with the case; they argue that some influence renders a weakened vitality of the tissue cells locally, and this may be trauma, embolism, thrombus, etc. The hyperacid gastric juice digests out the devitalized portion, and thus the ulcer is produced. There seems to be considerable unanimity of opinion regarding the obstructed circulation and the following sequences by most authors. The great divergence lies rather in the preliminary conditions leading up to the active process.

The form of ulcer which Prof. Fütterer illustrates upon the board is new to me. I have never seen one resembling this one.

I understand him to advance the theory that the constant irritation of the ulcer most frequently leads to cancer and that most of gastric cancers so occur. The opinion I had formed was that the cancer usually appeared in the cicatricial tissue of an old healed ulcer. Statistics give about 6 per cent of gastric cancers originating in this way. One thing we do know: the majority of gastric ulcers are found between 19 and 30, while the majority of gastric cancers are found between 40 and 70 years of age. We also know that often prolonged irritation in any part of the body may take on malignant action at any time. Epithelioma of the lip, or smoker's cancer, is an illustration of this fact. It is estimated that 12 per cent of gastric cancers are traced to hereditary influences. It is therefore quite conceivable that, given a prolonged irritation in a chronic unhealed ulcer in a case where heredity may be traced, cancer may occur.

I feel personally indebted to the professor for the theory he brings forth, and believe it is worthy of further investigation.

Dr. H. B. Sweetser—

Mr. President,—I had not expected to be called upon to take part in this discussion and therefore have made no effort to formulate what I would like to say on so important a subject. Dr. Dunn, I think, has stated fairly the most important point in the management of a case of gastric ulcer when he says that in acute cases the initial treatment should be medical; but when proper medical treatment has failed, after several months of honest effort, that then such cases should have the benefit of surgical exploration and necessary surgical treatment. In this way many of the disastrous complications,—adhesion, perforation, gastric dilatation, carcinoma, etc.,—might be forestalled and valuable lives saved. Only recently I had a patient die on the table following an extremely difficult dissection of perigastric adhesions in an old case of gastric ulcer and gall-bladder disease. This patient had had symptoms for many years, and had been brought to death's door several times by profuse hemorrhages.

Dr. Fütterer's paper was most interesting and instructive, especially so on account of its evidences of original work. I hardly feel capable of discussing so scientific a paper.

Dr. F. A. Dunsmoor—

I unite with the members present in congratulating ourselves upon having such distinguished authority with us to discuss the important subject of gastric ulcer, and regret that he is obliged to leave before hearing the comments upon his own paper.

The fishhook diagram, which the doctor finds as an explanation for the irritation, pains, and persistence of the gastric ulcer, seems to me could be sustained in theory only when the ulcer occurred on the lowermost portion of the anterior gastric wall, since the acute angle, if on the upper wall, with the profile reversed, would certainly not obstruct the escape of the contents of the stomach from the ulcer itself.

The peculiar shape described by the doctor is an indication of the administration of heavy doses of bismuth, which, by its mechanical filling under the excavated wall of the ulcer, would eliminate the possibility of irritating substances being retained in the sore.

The point made by Dr. Moore (J. T.) that alkalinity produced gastric ulcer, would hardly hold, owing to the circumscribed area involved and the long-continued existence (certainly many years) of gastric ulcer.

I agree with Dr. Dunn most thoroughly that, first, only a few patients die of hemorrhage from this source, and, secondly, that the surgeon should have the case before it is an absolute certainty that the patient must die, irrespective of what is done for the cure.

It reminds me of a story of an ambitious intern, just appointed to the hospital, making rounds with his chief, receiving advice what to do in bed No. 1, with typhoid; bed No. 2, with renal complications; bed No. 3, with phosphate of sodium for sluggish liver; bed No. 4, containing a patient moribund with double pneumonia,—the chief says, "Do nothing, utterly useless, man to die." He had hardly gotten to the next bed before the intern asked the opportunity of curing the man by application of hot poultices to his chest. His request was granted. Next morning on his round the chief, in giving his note, said when he came to bed No. 4,: "Put down in your note-book, 'Never poultice dead men'." In order that credit be obtained by the profession at large, as well as the operating surgeon in particular, it is necessary for the bleeding ulcer to be excised or the stomach drained by gastro-intestinal anastomosis before the patient is so weak as to be unable to stand even the shock of the operation.

Lately I have been called twice to operate after perforation had taken place, and either shock or peritonitis would be certain that death would result in a few hours. It is needless to say that I refused.

Dr. Dunn's associating allied conditions in cholelithiasis or appendicitis is sound in principle, in that each of these diseases becomes purely surgical, although each is certified as being cured many times in the same individual by the administration of internal medicines.

The first essayist is of the opinion that the chief factor in producing gastric ulcer is anemia, while my experience as a surgeon is that in nearly every case which I have seen the anemia was the result of the continued seeping from the gastric sore, and that it was often unsuspected by friends and the attending physician, because there had been no vomiting, or, when there had been vomiting, no blood connected with the emesis; the patient meanwhile regarding black or tarry stools as of no importance and, consequently, not reported in the history.

In this class of cases the crucial test is as to what must be done—whether to allow the disease to progress, which is certain to reduce the patient to a condition in which any complication may terminate his life, or to follow out a well established surgical maxim, "that no bleeding vessel should be left untied;"—and here appears the soundness of Dr. Dunn's conclusions as to the length of time a patient may continue medical treatment while bleeding from ulcer, and of his further conclusion that the favorable opportunity for surgical procedure is when the ulcer is located in the anterior wall and, especially, near the pylorus.

The surgical operation of an ulcer at the cardiac end of the stomach, even if it has been fortified by adhesion from the external surrounding tissues, is more apt to result fatally as a direct result of the manipulations employed than if the disease were left wholly to itself aside from a judicious restriction of diet.

I believe there would be no harm in a surgeon's suggesting internal administration of suprarenal extract for the temporary control of hemorrhage from this source and I have even seen as noted surgeon as Joseph Price wait for a temporary reaction in ruptured tubal pregnancy to collapse before operating.

Dr. L. A. Nippert—

Like the other speakers, Dr. Nippert regrets exceedingly that our distinguished guest from lack of time did not have the opportunity to present the results of his original researches. He agrees with Dr. Dunn's remark that our present knowledge of the different stages of gastric ulcer is very limited. As the clinical symptoms do not always indicate the extent of the ulcer, he finds it difficult to advise a serious and costly operation unless it be for exploratory purpose or for relief of stenosis. He endorses Dr. Dunn's advice that the internist should be seen more frequently at the side of the surgeon so as to enable him to observe the results of ulceration of the stomach.

ON THE PROGRESS OF MEDICINE SINCE 1803

From the Edinburgh Review

IN THREE PARTS—PART II

Immediately resulting from the discovery and general use of anæsthetics was the remarkable advance in abdominal surgery, beginning, as it did, with the revival of ovariotomy in the hands of Charles Clay, Spencer Wells, Baker Brown, and Thomas Keith. Pioneers in this direction had not been wanting in the pre-anæsthetic days. One of the most important of these, Dr. Ephraim McDowell, was an American. Part of the credit of the advance he made may, however, be given to his teacher at Edinburgh—Professor John Bell—who taught with much vigor and distinctness that ovarian tumors ought to be removed, though it does not appear that he had the courage to act upon his belief. Probably John Bell, in the centre of the Edinburg school, was not well placed for making an advance of this kind. Ephraim McDowell in Kentucky had a better chance, and in 1809 he operated successfully on a Mrs. Crawford. In those days nursing was by no means the high art and the invariable handmaid to surgery it has since become, and Mrs. Crawford seems to have nursed herself. Dr. McDowell visited his patient at the end of five days, and, much to his astonishment, found her "making up her bed." He operated on five cases in all, and only lost the last. Very probably John Bell was familiar with suggestions which both William and John Hunter had thrown out in favor of a radical cure for ovarian dropsy. William Hunter, in particular, having made several excellent suggestions as to the procedure to be followed in the operation. Even a century earlier, in 1701, an Englishman, Dr. Robert Houston, had operated successfully on a similar case, but his experience had been overlooked and forgotten. In 1836 two general practitioners in Suffolk, Drs. Jeaffreson and King, each had the courage to attempt the operation and the delight of recording a success. In 1842 Dr. Clay, of Manchester, operated eight times, with three deaths. In 1848 he published a series of thirty-three similar cases. Then there was a pause of several years, in which few successful cases were recorded. Ovariotomy was waiting for three things, without which it could not advance to its full measure of success and usefulness. It needed anæsthesia; it needed a man with the qualities of mind and temperament which should fit him to win for it the sanction of the medical profession and of society at large; and, most of all, it needed the new light upon the conditions which lead to success in all surgery, more especially in peritoneal surgery, which the world owes to the work of Pasteur and of Lord Lister. In 1857 anæsthesia was a familiar factor in surgical work, and to none more so than to the surgeons who had recently gone through the Crimean War. Spencer Wells had had this training, and had just settled in London. Baker Brown had then performed ovariotomy nine times, with only two successes. Wells helped him in his eighth case. It ended badly, and Brown said: "It's the peritonitis that beats us." Wells next attempted the operation himself, could not complete it, and the patient died. By this time the voices of the profession and of the public were not unnaturally calling out against the procedure. The medical press denounced it, the leaders of the profession at all the medical societies protested against it, and coroners threatened to take action against surgeons who performed it. But in December 1858 Wells operated again, and shortly afterwards he had two more cases, all three ending well. From this time Clay, Wells, Baker Brown, and a little later Thomas Keith, operated frequently, and with results that did them infinite credit, though they are not comparable with the statistics of the present day. In England the quelling of the opposition was due chiefly to Spencer Wells.

His strength as an advocate of an unpopular and dangerous procedure lay mainly in his qualities of character and temperament. He was splendidly honest. He promised to tell the whole truth about his results, to publish every case, successful or disastrous, and to show his methods to every surgeon who desired to see them. He kept his word to the letter. But he was helped by a temperament of quite amazing cheerfulness and elasticity. He knew he was doing his best, with such lights as he had, to perfect the operation and to save life and he would not allow himself to be discouraged by failure in whatsoever shape it came. He had the courage to be hopeful and confident, and encouraging in spite of many disappointments. His radiant optimism was infectious, and his patients forgot there was any risk to speak of in what he was about to do. Nothing is more contagious than optimism or more useful to a practitioner, if he can keep himself from being misled by it.

Spencer Wells' success was obtained mainly by a minute attention to detail in every step of the operation. He was never thoroughly converted to Pasteur's and Lister's views, or rather it should be said, perhaps, that he was too old to completely master the technique, so minute and exacting, that their views demand. To be thoroughly aseptic as a surgeon requires the drilling of years in early life. It cannot be "picked up" after a lifetime of habitual disregard of the infinitely little and of the numerous germ enemies with which Pasteur made us acquainted.

We approach here the great glory of nineteenth-century medicine, the revelation given to us by Pasteur and Lister as to the origin of many diseases through the admission of germs, an advance which has revolutionized theory and practice in surgery and midwifery and in many departments of medicine. The beginning of the search for antiseptics may be dated, in Great Britain, from Sir James Paget's address in 1862 on "The Treatment of Wounds." He appealed to his hearers not to be content with the present state of things. He spoke of "the sore plagues of surgery," septicæmia, pyæmia, and erysipelas; of the supreme value of repose and cleanliness, and of the difficulty of getting either, and more especially cleanliness in a surgical sense. He thought surgeons should aim at "keeping out mischief, always a very difficult task," and he added these almost prophetic words: "I can only suspect that there are yet some things hidden." We know now that in 1862 nearly the whole of bacteriology was hidden. The first step towards the discovery of the influence of micro-organisms in the production of disease and in the healing of wounds had been made in 1857 through M. Pasteur's investigations into the nature of the various kinds of fermentation. He proved that this process was due solely to the entrance into the material capable of fermentation of almost infinitely small particles from the outer world, and that these particles were living bodies, not arising spontaneously, breeding true each to its species, requiring nutriment to build up and renew their substance, and leaving a residuum of excrete waste products. He proved further that by excluding micro-organisms fermentation was absolutely prevented. As early as 1860 he recognized the bearings his studies on fermentation had upon pathology. In a letter to his father he said at that date: "God grant that by my persevering labors I may bring a little stone to the frail and ill-assured edifice of our knowledge of those deep mysteries of life and death where all our intellects have so lamentably failed." Presently he saw that putrefaction was but fermentation applied to animal material, and he writes: "All my ambition is to arrive at the knowledge of the causes of putrid and contagious diseases." Side by side with these investigations he was studying the diseases of wine and of silkworms, and in both cases he found experimental proof that they came from germs introduced from outside. He found also practical methods of preventing these diseases by keeping out or destroying the noxious germs. The studies on fermentation went on, with intervals, till 1872, when he put his theory into the concise formulæ, "Fermentation is life without air; ferments are living beings; there is a special ferment corresponding to each kind of fermentation; ferments are not born spontaneously." He then went on to the study of contagious diseases. Villemin had brought the proof of the specific character of tubercular infection, and Davaine had found parasites, which he called "bacteria," in the blood of animals that had died of anthrax. Pasteur showed how to obtain a pure culture of the anthrax bacterium and how to test Davaine's theory experimentally. The doctors were, in the great majority, violently opposed to the germ theory of disease. They answered experimental proof with oratory. The less excited among them urged temporizing. The surgeon Chassaignac, for example, warned Pasteur that "laboratory results should be brought out in a circumspect, modest, and reserved manner, as long as they have not been sanctioned by clinical researches, a sanction without which there is no real and practical medical science." Everything, he said, "could not be resolved into a question of bacteria."

The great Trousseau, almost alone among the leaders of medicine in Paris, had before his death in 1867 predicted a splendid future for Pasteur's work. After explaining Pasteur's views about ferments, Trousseau said:

> Perhaps this is likewise true in respect of morbid viruses. Possibly they, too, are ferments deposited in the organism, which, at a given moment and under certain determinate circumstances, make themselves known by the multiplicity of their products. * * * Under these circumstances, may we not admit that the ferment, or organized matter, of these viruses is transported to one place by the lancet, and to another by the air or the dressings?

Trousseau could scarcely, however, have imagined the revolution Pasteur's work was soon to make in surgery and midwifery. Instances of the appalling mortality in both these departments of medicine are easily found. In the Paris Maternité Hospital in 1856, in five weeks, out of 347 women admitted 64 had died. The survivors were moved to another hospital, where many of them also died. In 1864, out of 1,350 cases 310 died. The hospital was again emptied and cleaned, but soon afterwards there were 28 deaths out of 103 cases. In 1874 Drs. Tarnier and Budin introduced the new views of Pasteur and Lister, and in spite of what Dr. Roux called "the tyranny of medical education," they were by degrees accepted and acted upon by the younger men with the best results. Nearly thirty years earlier at Vienna the Hungarian Semmelweiss had proclaimed the truth that puerperal fever was mainly due to the inoculation of the patient with poisonous matter by the hand of the accoucheur or nurse, and that this mode of contagion could be absolutely prevented. Semmelweiss was persecuted in every way by his medical brethren, turned out of his professorship and ruined. But he had proved his thesis, and the death-rate in the Vienna Hospital, which in 1846 was 13 per cent. from puerperal fever alone, fell in 1848 to 1 1-3 per cent. Semmelweiss knew nothing exact about germs, but he arrived very near to Lister's methods by observation, common sense, and minute care. At the present time in England puerperal fever is one of the rarest of calamities in lying-in hospitals where antiseptic methods can be strictly enforced; it is still unfortunately much less rare in private practice.

In surgery proper there was a similar experience, a ghastly mortality after operations, even as late as in the Franco-German war. M. Verneuil wrote:—"Nothing was successful, neither abstention, restricted or radical operation, early or late extraction of bullets, dressings rare or frequent, emollient or excitant, dry or moist, with or without drainage; we tried everything in vain." Nélaton declared that he who should conquer purulent infection would deserve a golden statue. It occured to Alphonse Guérin that if Pasteur's views as to germs in the air were true, the air in contact with wounds could be filtered by many layers of cotton-wool, and putting this idea into practice in an imperfect way he had the satisfaction of seeing nineteen out of thirty-four operation cases recover. Guérin asked Pasteur's help towards further improvement, and presently Lister's methods became known in France, partly through the medium of Professor Tyndall's well-known article on "Dusts and Diseases," which was republished in a French review.

But the science of the study of micro-organisms did not stop with the rise of antiseptic surgery; it continued to develop. Improved methods of investigation were devised by both French and German biologists, and about 1880 it became possible to separate the various bacteria found in an animal or material, to get a pure or unmixed culture of each, and thus to be in a position to study the effect of each, and to be able to estimate any variation in strength of infective power it might develop under varying conditions. Immense influence resulted from the method Koch elaborated for growing many mixed micro-organisms separately. Step by step, and with infinite labor and patience the specific micro-organism of tuberculosis (discovered by Koch in 1882), of glanders, anthrax, tetanus, diphtheria, cholera, malaria, plague and influenza has been found, and its life-history traced. It was while searching for the bacillus of rabies that Pasteur found that the poison it created was certainly located in the nerve tissue of the affected animal, that this tissue varied in virulence, and that the virulence could be increased or diminished by varying the species of the animal inoculated, and by the length of time the poisoned tissue had been exposed to the influence of dry air. He found, too, that it was possible to acclimatize animals to the poison by inoculating first a very weak virus, and gradually increasing its strength.

From these observations grew the Pasteur treatment of hydrophobia. It is now known that much of the effect of the pathogenic bacteria is due to the poisons or toxins they manufacture in the process of growth; these poisons have also been isolated and studied, and their effects are known as certainly as are those of the alkaloids derived from the vegetable world. It was further demonstrated that by gradually introducing a specific poison into an animal, immunity could be developed till at last very large doses of poison could be given without serious result. This effect was believed to be due to the gradual formation in the animal of a substance which counteracted the poison and served as its antidote, which substance remained for some time stored in the blood and was capable of exerting its specific antidotal property when injected subcutaneously into another animal. From this has arisen the antitoxic treatment of diphtheria. Every step in such a research as this had to be tested over and over again upon humble animals, before the results could be finally accepted. Therefore every child saved by the antitoxic treatment of diphtheria owes its life to the scientific use of vivisection. Diphtheria kills through the toxins formed by the bacillus, and if the antitoxin is to have its chance it must be given early in the illness before the nutrition of the nervous system has been profoundly damaged by the poison. By waiting till the toxin has done irreparable harm, say, to the nerves of the heart, the opportunity of saving life has been lost. The poison needs to be antagonized before it has done its fatal work, and not after.

The mortality from diphtheria, in spite of the fatal delay which has too often occurred before using the antitoxic serum, has been reduced more than 50 per cent. since the introduction of the new treatment.

BORN—A GIRL

A country practitioner, who lays no claim to specialism in obstetrics, sent us the following clipping from his local weekly paper, and we presume it chronicles only a part of his week's work:

Born—To Mr. Wm. Burgschats and wife, of Pine Island township, on Wednesday, March 4, a girl.

Born—To John Bennett and wife of Goodhue, on Thursday, March 5, a girl.

Born—To Oscar Hoven and wife, at their home three miles south of Zumbrota, on Friday, March 6, a girl.

Born—To Mr. Sherman Skillman and wife at their home north of Zumbrota, on Wednesday, March 11, a girl.

Born—To Mr. John Quast and wife, on Tuesday, March 10, a girl.

NORTHWESTERN LANCET

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THE HENNEPIN COUNTY SOCIETY'S ANNUAL MEETING

The meeting of the Society on Monday evening, April 6th, was a success in spite of the storm. One hundred and twenty members were present, which is a good showing for the Society. Many were detained on account of the other meetings and enforced engagements.

Mayor Haynes was in evidence, and assumed the guise of a medical man. In the course of his complimentary remarks he did not intimate who the next city physician might be.

Dr. Fütterer delivered an interesting address, which is published in this issue, on "Gastrict Ulcer and Its Relation to Cancer." The speaker impressed his hearers with his modesty. One not knowing him or his writings and his original research would know at once that the man was a scientist full of valuable information.

Dr. J. H. Dunn, who treated the subject from the surgeon's view-point, was, as usual, forceful, eloquent, and convincing. It is a matter of regret that all that Dr. Dunn had to say on the subject was not embodied in his paper. He frequently put aside his manuscript to emphasize some striking statement, which added to the argument.

The discussion was rather general among medical men and surgeons, and, what was particularly gratifying, the speakers stuck to the subject without excursions of any kind.

A meeting such as this is a good thing for every organization. The introduction of men from abroad who are specialists in internal medicine and who have valuable material at their command, is a stimulus to all kinds of practitioners. It keeps one from rusting; it suggests new fields for reading and discussion, even though, as Dr. Dunn remarked, we know little or nothing about gastric ulcer. A typical case is usually recognized, but the atypical, chronic forms of ulcer are so concealed and masked by a multiplicity of symptoms that surgical exploration is often the only means of diagnosis.

No doubt, many who heard the papers went away with the idea that some of their cases were probable ulcers of long standing. Renewed attempts to diagnose diseases of the stomach will be vigorously prosecuted, and by another year we hope to know and hear more of gastric ulcer from the surgeons' and physicians' combined efforts.

FIFTY YEARS IN SERVICE

The other day a press dispatch from Kansas announced that the oldest physician in the United States had died at the age of 101 years, and that he had been engaged in active practice for 75 years. This, indeed, is a very long service, and perhaps cannot be paralleled once in a generation in this country.

A short time ago the homeopathic physicians of Minneapolis met at the banquet table to celebrate the fiftieth anniversary of Dr. W. H. Leonard's practice, and when we know that most of the time has been spent in Minnesota, the occurrence is a very unique and a very remarkable one.

Hubbard, of the Philistine, Mark Twain, and other notables, sent letters of congratulation.

Dr. Leonard has been an influential man in this city and state because of his force of character; and the silent influence for good of these fifty years can never be measured. Few men have given to them such opportunities for counseling and guiding their fellow men in the supreme experiences of life as came, of necessity, to Dr.

Leonard the physician; and few men ever made more of their opportunities than did Dr. Leonard the man.

It is the wish of the Lancet that Dr. Leonard may live to celebrate the 75th anniversary of his practice.

TYPHOID FEVER EPIDEMIC

A large number of cases of typhoid fever have been reported in the Twin Cities. The public generally are uninformed, or are indifferent as to the causes or consequences. All of the hospitals report an increasing number of cases, and a large number are cared for in private houses. The hospitals are unable to accommodate applicants on account of the lack of room. Applications from St. Paul have been made for beds in Minneapolis hospitals, which is evidence that the St. Paul hospitals are in the same congested state.

The cases are reported as severe, running a protracted course, and complicated by perforation, hemorrhage, and mental and nervous symptoms.

The Northwestern Hospital, of Minneapolis, has admitted eighteen cases within two months. Two deaths occurred from perforation and one from infection of the cerebrospinal meninges. In two of the cases, hemorrhages occurred, severe and exhausting. An unusual number of the eighteen cases were ushered in by maniacal furor or delirium, lasting from one to four days, and requiring restraint until the typical typhoid symptoms made the diagnosis. The City Hospital admitted eighteen cases in March, and nine cases in the first fourteen days of April.

This epidemic emphasizes anew the necessity of guarding against or preventing the invasion of the typhoid poison. Many still contend, and the inference is sustained by past epidemics, that the water supply of most large cities is a constant source of danger. It should be comparatively easy to stamp out an epidemic of typhoid in a small town when the infected water supply can be traced, and its source shut off. In a large city, the dangers are magnified, and the education of the public is slow, and does not reach far enough into the homes. Besides the water method of infection, there are other avenues that need a sentinel,—the milk route, the green vegetables, and, particularly, an untidy and unwholesome house where flies are allowed to carry the infection from all parts of the house to the table, and thus infect the guest or other members of the family.

First of all, the city of Minneapolis must do more than has been done to bring uncontaminated water into the household; secondly, the people must be repeatedly warned to boil the river water before drinking it, or, if water is supplied by private sale, the bottles and jugs must be clean, and children should be taught the necessity of drinking only safe water; third, cleanliness in the care of the patient and extreme care in the removal and disposal of the dejecta must be observed; fourth, the exclusion of flies from the sick room is necessary.

Until these facts are impressed upon the people, we may expect frequent epidemics of typhoid.

FRUNECEK'S SERUM

The Philadelphia Medical Journal for March 21, 1903, contains an article by Alfred Gordon on a new serum described in an issue of the Semaine Médicale by Frunecek, of Prague.

The combination of inorganic salts is used to combat the effects of sclerosed blood-vessels, and is supposed to be a dissolvent for calcium phosphate, the main salt found in the arteriofibrosis. The original formula, sodium chloride, sodium sulphate, sodium carbonate, and potassium sulphate, a modification of the formula, contains, in addition, calcium phosphate and magnesium and sodium phosphate (without potassium sulphate) for internal administration.

The serum is given to benefit the aged in general health and strength, to supply them with salts that disappear with advancing years, and to overcome the symptoms that usually accompany diseased blood-vessels, such as dyspnea, asthma, vertigo, angina pectoris, paresthesias, and transient attacks of paralysis. Gordon found the combination beneficial in nine out of twelve cases, and in a few cases where the iodides were given simultaneously the beneficial effects were more marked. Three of his cases were negative, and in one or two the serum was not tolerated. The combination may be given hypodermically, but no special advantages are gained. In none of the cases was there any evidence of improvement under ten days.

When we consider the very few remedies that are of any benefit in arteriosclerosis, notably the iodides and nitrites, a simple formula like the above is rather seductive. It can do no harm, and will probably do as much good as any of the old time drugs.

A salt or combination of salts that will supply a deficiency and at least relieve the distressing symptoms of old arteries, is a valuable addition to the field of therapy. In the numerous experiments that have been tried to resuscitate the dying, the drugs given have all contained chloride of sodium, and therefore the additional salts of the serum formula may be a happy combination to prolong life.

REPORTS OF SOCIETIES

THE MINNEAPOLIS PATHOLOGICAL SOCIETY

Arthur T. Mann, M. D., Secretary

The February meeting of the Society was held at the University Laboratory for Pathology; Dr. A. W. Abbott in the chair.

Dr. A. Schwyzer presented the main specimens of the evening, microscopic slides from four cases of the class of colica hematurica and essential hematuria. These slides were from pieces which were taken at the operation of splitting the kidneys, and exploring them with negative macroscopic findings. Two were cases of essential hematuria with no other marked symptoms than the hematuria. The blood came only from the right kidneys, as shown by the segregator. Clinically, there was no nephritis present, and the left kidneys were normal.

Two were cases of colica hematurica with attacks of excruciating pain. In these also the right kidney only was affected and gave bloody urine at or after the attacks.

Microscopically, in all cases a similar picture is presented, namely: desquamation of epithelial cells in the glomeruli and convoluted tubules, red-blood corpuscles in the glomerular capsules, apparently having entered by diapadesis; and larger quantities of blood and epithelial detritus in the convoluted tubules. The interstitial tissue was free from infiltration, with the exception of one small focus in two cases, where distinctly a localized inflammation is to be diagnosed, though the foci are only to be found in one place in each case, and are not much larger than a glomerulus. Clinically, there are no signs of nephritis,—no casts, and no noticeable quantity of albumen besides that easily accounted for by the blood present.

As to results: two cases at five and three and a half months, respectively, have remained well since operation. The third case, which was an essential hematuria, has continued to bleed up to the time of the report, six weeks after operation, but has no clots in the urine, and feels well otherwise. The fourth case had pains at frequent intervals before operation two weeks ago, and has felt very well since operation. The time of observation in the two last cases is of course too short for a statement of the result of operation. The third case, however, seems to have an insufficient result as the bleeding has continued up to the present time.

The specimens show hemorrhagic and desquamative changes, marked in all the cases, while parenchymatous and interstitial signs of inflammation are conspicuous by their absence. Besides this, the clinical symptoms speak entirely against an ordinary nephritis.

Dr. White, in the discussion of the foregoing specimens, remarked that in the changes in the kidneys one must sharply differentiate between the results of a toxic irritation and changes which are more purely inflammatory, e. g., nephritis as we usually understand it. There is a class of cases which can be explained only by the irritation of toxic substances in which one finds changes in the epithelium without changes in the connective tissue.

Dr. Chowning presented the remains of a fetus removed by Dr. Dunn in the course of an operation in which he was removing an appendix for chronic appendicitis. The patient was 30 years of age, and denied the possibility of pregnancy less than five years before. Dr. Williams was quoted as having given a case showing the skeleton of a fetus at the end of one tube, 10 years old, and a fresh fetus at the end of the other tube.

Dr. White presented sections of an adenocarcinoma of the scalp, which before removal presented the appearance of a sessile, soft fibroma; and also a section of a melano-sarcoma of the eyeball.

Dr. Mann presented sections of an endothelial sarcoma of glands of the neck secondary to a similar growth in the testicle, removed three years before. A section of the original tumor was also shown.

Dr. Benjamin showed a uterus with beginning carinoma in the cervix in a woman aged 80 years. Sections were not yet cut. A second specimen was of scrapings of a uterus showing villi. He showed as a third specimen a tumor of the right ovary, which seemed to be a sarcoma.

Dr. A. W. Abbott presented a submucous myoma of the uterus, showing constriction at its inner third with degeneration inside the area constricted.

NEWS ITEMS

NORTHWESTERN NEWS

Dr. A. J. Moe, of Heron Lake, is building a hospital.

Dr. J. J. S. McCabe has moved from Appleton to Benson.

Dr. George J. Hanley, of Cass Lake, has moved to Moorhead.

Dr. T. P. Martin has moved from Grandin to La Moure, N. D.

Dr. H. C. Clark, of Glencoe, has gone east for special work in the eye, ear, nose and throat.

Dr. Gisle Biorndstad has given up practice at Cannon Falls, but has not decided where to locate.

Dr. F. S. Bissell, of Litchfield, who graduated at the State University last year, has located at Lewisville.

Dr. Harold Rees, of Walcott, N. D., has moved to Maynard, Minn. Dr. Rees graduated from Rush in 1892.

Dr. J. C. Boehm, of St. Cloud, has been taking a special course in Chicago, mainly in electro-therapeutics.

Dr. Herbert Davis, of St. Paul, has gone to Europe, and will attend the World's Medical Congress at Madrid.

Dr. R. F. Whetstone, of Cass Lake, is home from Baltimore, where he has been doing special work for the past three months.

Dr. J. F. Mulholland, formerly of Jordan, died last month at Manitowoc, Wis., where he had been practicing for several years.

Dr. J. A. Rene, of West Superior, Wis., was severely injured in a street car accident last month, and narrowly escaped death.

Dr. J. C. Adams, who has been spending the winter in Philadelphia, has returned to his home at Lake City, and will resume his practice.

Dr. L. M. Martin, of Pomeroy, Iowa, has accepted a position in St. Mary's Hospital at Rochester, Minn. Dr. Martin is a graduate of Rush.

Dr. Thomas J. Slack, of Great Falls, Montana, died last month. Dr. Slack was only 31 years of age, a graduate of McGill, and was regarded as a man of great promise in his profession.

Dr. Lida Osborn has withdrawn from the firm of Andrews, Holbrook, and Osborn of Mankato. Her place will be taken by Dr. Jane Hughes. Dr. Osborn will spend several months in study in New York city.

The State Board of Medical Examiners of South Dakota has elected the following officers: President, Dr. Stephen Olney, Sioux Falls; vice-president, Dr. H. S. Groves, Hurley; secretary and treasurer, Dr. H. E. McNutt, Aberdeen.

Mr. E. G. Bassett, the Minneapolis representative of Messrs. Parke, Davis & Co., was very seriously injured a few days ago in a street car accident. At this writing hopes are entertained of his recovery. Mr. Bassett is very well and favorably known by the physicians of Minneapolis, and his wide knowledge of drugs and his gentlemanly ways make him a welcome visitor in a physician's office.

The Clay-Becker (Minn.) and Cass County (N. D.) medical societies held a joint meeting at Fargo last month, and all present pronounced the meeting one of the most enjoyable and profitable they ever attended. The Cass County society elected the following officers: President, Dr. H. J. Rowe, Casselton; first vice-president, Dr. F. J. Campbell, Fargo; second vice-president, Dr. E. S. Hyslin, Kindred; third vice-president, Dr. H. H. Critchfield, Hunter; fourth vice-president, Dr. E. C. Wheeler, Fargo; secretary, Dr. Paul Sorkness, Fargo; treasurer, Dr. J. D. Henning, Fargo.

WANTED—A POSITION

A young lady desires a position in a physician's office. She can use the typewriter, but is not a stenographer.

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THE X-RAYS IN MEDICAL DIAGNOSIS*

By Soren P. Rees, B. S. M. D.

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MINNEAPOLIS

The medical profession views with suspicion a new agent for which much is claimed. The reason is twofold. Experience has taught us that the pathognomonic sign and the sure-cure remedy alike last but a day, and former disappointments prompt us often to overlook or ignore a remedy. The *x*-ray is an illustration. Hundreds of unskilled and unscrupulous physicians throughout the country are putting in *x*-ray outfits, not to be used scientifically or systematically for treatment or for diagnosis, but for irrational and spectacular uses, which serve to advertise the physician and fool the patient. The legitimate worth of the *x*-ray is in no way diminished by this charlatanry, and the honest and skillful physician has no more cause to shrink from its use on account of such questionable employment than has the skilled surgeon reason to refuse to operate because so many use the knife who were meant by nature to be butchers only.

In the diagnosis of some surgical cases,—fractures, dislocations, bone necrosis, foreign bodies, and tumors,—the *x*-rays have demonstrated their indispensable value. We wonder now that good work in the past could have been done without their aid. In the treatment of such diseases as epithelioma or carcinoma of superficial structures, tuberculosis of the skin, psoriasis, hypertrichosis, and acne, careful observers have given the *x*-rays first place. I have lately visited in Chicago the laboratories of several of these conservative men, and can testify that the published reports are justified by the results obtained in treatment. Drs. Hyde, Montgomery, and Ormsby, in a recently published article*, are able to come to the following conclusions:

"While it is too early to form definite and sweeping conclusions regarding the value of radiotherapy and phototherapy in all the affections in which they have been employed, our experience leads us to believe that in tuberculosis of the skin these methods of treatment are superior to any others now known to us. In lupus erythematosus, phototherapy has given in our hands very satisfactory results, far better than those we have obtained by any other method.

"In superficial carcinoma involving considerable areas, radiotherapy is undoubtedly preferable to all other known methods of treatment. Superficial lesions, more circumscribed, are equally amenable to treatment with the *x*-rays, though in many instances small tumors can be removed more promptly by complete erasion or excision. For many of these circumscribed growths we are now inclined to advocate removal either with the knife or curette, followed by a series of treatments with the *x*-rays. In operable carcinoma of the skin which includes deeper tissues, we advocate complete extirpation followed by *x*-ray treatment. Where the growths are inoperable radiotherapy offers a possible chance of recovery, or of lessening the discomfort of the patient. As a result, however, of our observations of our own and other cases, we believe that in exciting an inflammation in carcinoma one is, to some extent at least, encouraging an extension of the growth through a dissemination of the cancer-cells to normal (or inflamed) tissue surrounding the growth and of favoring metastases. We believe this possibility constitutes a danger in the treatment of carcinoma by the *x*-rays that has not been sufficiently recognized.

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*Read before the Minnesota Academy of Medicine, April 1, 1903.

*"A Contribution to the Subject of Radiotherapy and Phototherapy in Carcinoma, Tuberculosis, and Other Diseases of the Skin, read at the 53rd Annual Meeting of the American Medical Association."

"The value of radiotherapy in extensive cases of hypertrichosis has been fairly well established by other observers. It has given us excellent results in the majority of cases of psoriasis treated. It has unquestionably been used successfully in many of the chronic inflammatory diseases of the skin, especially in acne, rosacea, folliculitis, and suppurating wounds; but until this agent can be employed with greater accuracy we believe it should be reserved chiefly for those cases in which better known and better controlled methods are not successful."

In medical diagnosis the *x*-rays have been found of great value especially by Francis H. Williams, of Boston, and A. W. Crane, of Michigan. The testimony of these men is of all the more value because they recognize and understand the use of the older methods of investigation. For this reason, largely, have I been tempted to investigate for myself of how much aid the *x*-rays might be; believing fully that the older and simpler methods of physical examination skillfully employed must always remain the ground-work upon which our conclusions rest, and that special means of diagnosis and laboratory tests should be employed as aids only, and with a clear understanding of the particular feature of the general examination they are intended to supplement.

POSSIBILITIES AND LIMITATIONS OF THE X-RAY

In view of the progress already made in adapting the *x*-rays to medical examinations, it might seem that by increasing the intensity and penetrative power of the rays we could conquer almost any problem in radiotherapy: could examine a large subject as well as a small one; view the abdomen as easily as the thorax, and make out without blur or indistinctness all of the different structures or layers of tissue; but this is not the case. It is easy enough to produce *x*-rays of sufficient intensity to penetrate any human body, but in order to make a satisfactory fluoroscopic examination or radiograph it is necessary that these rays be intercepted in varying degrees by the different structures under examination so that they will cast shadows of discriminable density. In other words, it is a matter not only of intensity in the ray, but of density in the medium. Two factors are involved in an *x*-ray picture; penetration and definition. These have to be carefully gauged, or the one essential will destroy the other. Improvement in apparatus and technique has been so rapid that it is fair to believe that much better work can be done in the near future in the adjustment of these necessary conditions.

EQUIPMENT AND USE

Whether the exciting apparatus shall be a static machine or an induction coil depends upon several conditions. Each has its advantages. Williams claims superiority for a good static machine for fluoroscopic examinations of the thorax. It gives a steadier light, which can be regulated to a nicety, while the machine can be used for ordinary static treatment as well. If no direct current is available for power, the static machine is always obtainable. The coil, however, is always ready, is independent of the state of the weather, takes up little room, is less likely to get out of order, and can deliver a greater amount of current, and is therefore to be preferred for skiagraphic work and especially for instantaneous exposures. These short exposures, ranging from 30 to 45 seconds, are necessary to taking a picture of the chest, liver, or gall-bladder, in order to avoid as much as possible the blur caused by the respiratory movements.

It is not within the scope of this paper to describe the various pieces of apparatus and their use. The self-regulating tube is a clever and useful improvement, but the writer had to learn by bitter experience that a tube of the proper vacuum should be held at this point as long as possible. Every time the regulating device lowers the vacuum, the quality of the light is lost. An up-to-date tube-stand that will quickly bring the tube into any position, is an absolute necessity. These three—generator, vacuum-tubes, and tube-stand—with the necessary fluorescent screens, are the essentials to good work; and all the other accessories are of secondary importance, although many of them are very convenient. The intensifying screen is used but little, but on the other hand the open or unframed screen, which can be smoothly spread over the whole chest and observed at a distance, is of the greatest value in comparing corresponding portions of the thorax.

THE NORMAL CHEST

These remarks are based upon the careful and systematic study of some fifty chests, most of them young and healty male adults. The points of interest were made out in the following order:

1. A general inspection of the thorax from above downwards should be made to note the quality of the light and the extent to which it penetrates and defines the parts examined. The light must be regulated for each patient, and modified for study of the different organs, in order to obtain the best results. The tube should be placed directly opposite the median line, where it is crossed by the fourth rib, and should be from 24 to 30 inches away from the patient, in order that the distortions may be reduced to a minimum. For the same reason the fluorescent screen should be as close to the parts as possible.

2. A general inspection of the thoracic organs reveals, in the median line, the sternum and vertebral column; and the mediastinal space appears as a dark shadow about the level of the third rib, widening out into a more or less spherical figure corresponding to the ventricles, and resting on the dome of the diaphragm. The light lung tissue is found on each side of this, and in health appears as a thin, foggy, uniform shadow, varying during the two phases of respiration, being lighter at the end of inspiration and darker at the end of expiration. The lattice-work of the rib shadows as they cross each other stands out boldly from the rest. Beyond these the soft and bony tissues of trunk and limbs are seen. In some cases the right upper apex appears a little darker then the left; in others no differences are to be noted. Normal shadows cast by groups of muscles, fascia, or bones, are recognized by their bilateral symmetry, and movements with the change of position of arms and shoulders. But of equal importance with size and outline are the movements of the thoracic viscera. Ventricular contraction is well defined, and in a good light a slight pulsation of the aorta can be seen. The change in the position and axis of the heart upon full inspiration and expiration can be easily noted. The movement of the diaphragm should be uniform, both sides acting simultaneously and to the same range. With the descent of the diaphragm and the rarefaction of the lungs the cardiac position, as already stated, changes, and its outline becomes more distinct. This is on account of the lighter lung shadow, and the disappearance of the diaphragm shadow, which, in the opposite phase, i. e., during the latter part of expiration, is merged with that of the heart. These movements are wonderfully impressive, and serve as a strong stimulus to the further study of the anatomy and physiology of these organs and of other methods of diagnosis. To look in upon the vital forces, and see them work, creates enthusiasm, stimulates new thought, and encourages the hope that the fluoroscope may be helpful to the internist, as it has been of assistance to the surgeon.

Through the fluoroscope, the phenomena of chest expansion assume a new importance. The incessant labor of the heart, and the necessity of its physiologic rest, become more apparent; nay, even the causes of myocarditis, and of degeneration of the heart and blood-vessels, seem to me suddenly to become more clear. These observations promise to illuminate our vision upon questions of treatment in these cases as well. The excursions of the diaphragm are especially striking, with their probable important bearing upon digestion, absorption, and excretion, as influenced by this mechanical movement and massage of adjacent organs. The apex of the heart resting closely on the dome of the diaphragm makes plain how severely a distended stomach may hamper and even stop the action of a weak and dilated heart.

As in all other methods of diagnosis a careful knowledge of normal phenomena is absolutely essential, and this is especially true in *x*-ray observations. But accurate and careful observation is only the first half of *x*-ray diagnosis; the correct interpretation of the picture is of equal importance. For this reason the *x*-ray examination should always be taken and interpreted by a skillful physician, who is conversant with all other methods of diagnosis and who will use the *x*-rays in intelligent conjunction with these older methods. In general, the fluoroscope is best adapted to studying the chest and observing its intrinsic movements. Williams records many cases in which the fluoroscopic examinations revealed conditions which the skiagraph failed to show. This is fortunate, for the labor of the internist in making a fluoroscopic examination is a small matter as compared to that involved in making a skiagraph. In regard to the latter it should be remembered that the negative, and not the print, is the record to consult, for the latter loses much of the distinctness of the former.

THE ABNORMAL CHEST

Any change in density of lung tissue will cast a shadow darker or lighter than normal. The two sides must be constantly compared, and the general build of the individual considered. It must be remembered that corresponding to the findings of other methods, the right apex generally casts a slightly darker shadow than the left. Among the conditions causing dark areas are:

1. Tuberculosis. Local infiltration, thickened pleura, consolidation, and cavity-formation are each clearly discernible. When the tuberculous area is central and surrounded by emphysematous lung the shadow of the affected portion is more pronounced. The time at which an early tubercular process can be detected depends entirely upon the excellence of the light and the experience of the observer. I have seen enough to feel sure that as the one factor is improved and the other developed, the *x*-ray will become a very valuable aid in diagnosing early cases of pulmonary tuberculosis. The restricted movements of the diaphragm on the affected side can be clearly observed, and more accurately measured with the fluoroscope than by any other method. More than a year ago, with the facilities then at hand, Williams concludes as follows:

"Classes of cases of pulmonary tuberculosis, in which the *x*-ray examination is of value:

"*a.* As an aid in diagnosis,—First, in cases where there are no physical signs, or where they are very doubtful; second, in cases where there are slight physical signs only; third, in cases where an accompanying emphysema, bronchitis, pleurisy, or pneumonia may disguise the physical signs of tuberculosis; fourth, in cases where the physical signs indicate tuberculosis, which the *x*-rays do not conform; fifth, in cases of tuberculosis of some other portion of the body than the lungs, to see if they also are affected; sixth, in patients, between fifteen and thirty years of age, whose family history is tuberculous. Precautionary *x*-ray examinations.

"*b.* In old lesions of tuberculosis.

"*c.* For determining existing conditions more accurately.

"*d.* In determining the progress and extent of the disease; first, in the cases where the progress of the disease is rapid, *x*-ray examinations, made at intervals of a week or so, will often show marked increase in the diseased area, although to physical signs the progress is not so evident; second, in cases where the progress is not rapid, and the patients gain steadily in weight, improve in color and general condition, and have no temperature, and yet the *x*-rays show that the disease is steadily advancing.

"*e.* In determining the extent of disease. In cases in which the *x*-rays assist us to determine the extent of the disease as well as its progress, and enable the physician to determine whether the patient should or should not remain at home.

"*f.* In acute miliary tuberculosis.

"*g.* In showing cavities in the lungs."

2. Pneumonia. The exact amount of tissue involved in croupous pneumonia can be watched. Lobular pneumonia gives scattered dark areas. Pneumonia is easily differentiated from pleural effusion by the light line between the lung and diaphragm seen on full inspiration. This line is absent when effusion is present. But of special value becomes the *x*-ray picture in cases of central pneumonia when not recognized by percussion and auscultation.

In some cases the diaphragm line is a more delicate test than the shadow cast by the diseased lung. The change in size and position of the heart is beautifully shown when the pneumonic area is separated from the heart shadow. According to Williams the middle portion of the lung is most commonly affected. The base and apex are often found comparatively free from disease. This is plausible, as the middle portion between the second and fourth ribs is nearer the cronchi, and would receive infection first from without.

3. Emphysema. The pulmonary area in emphysema is brighter and more extensive than in health. The diaphragm is therefore low. The very light appearance of the lungs shows by contrast all the clearer the size and position of the heart, which are difficult and often impossible to make out by percussion or auscultation. Thoracic aneurism, tumor of the chest or mediastinum, tuberculous infiltration of the lung, similarly stand out prominently beside an emphysematous lung.

4. Pleurisy, with effusion or retraction. In most cases the *x*-rays are not needed to demonstrate this condition, but at times even with a large effusion, they may prove useful. The character of the fluid does not influence the shadow cast. A study of the line to which the fluid rises in the chest, and of the displacement of the thoracic viscera, has corrected some of our former notions. But the value of the *x*-ray examination becomes especially apparent in an encysted pleurisy, in interlobular empyema or pleurisy, in diaphragmatic pleurisy, or in pleurisy with effusion, accompanied by emphysema or pneumonia or tuberculosis. The appearance of pneumohydrothorax is especially striking. Unfortunately the examination of these acute cases is not practical at the office and must be largely limited to hospital practice.

THE HEART

Any abnormality in size, shape, position, or movement is readily discovered when the lung casts a normal or lighter shadow. The deep cardiac dullness, made out with difficulty in emphysema, is accurately ascertained. Comparison between the heart-outlines obtained by careful percussion and those obtained by tracing those of the fluoroscopic picture, show how material an aid is the latter examination in determining the size of the heart. In the same way it has been shown by Williams that the apparent enlargement of the heart in cases of chlorosis, is in many cases merely a change in the long axis of the heart from the vertical to the more oblique. A small pericardial effusion may be accurately differentiated from enlargement. Adhesions and displacements, due to whatever cause, are apparant to a certainty not possible by any other method.

THORAX ANEURISM

In two classes of cases do the *x*-rays become of special value in this condition: (1) In the large aneurisms, easily diagnosed by the ordinary methods of examination, the fluoroscope often reveals the size of the sac to be much greater than could be determined by physical examination. In these cases the fluoroscope reveals the danger and the patient can be warned to adopt special precautions. If such an aneurism should become larger, the *x*-ray picture is the only method by which its growth can be accurately watched and measured. (2) In the early stage of many aneurisms, when the prognosis would be most favorable, if the condition could be positively ascertained and appropriate treatment instituted, the diagnosis is often very difficult or impossible, and, as in the case of cancer of the internal viscera, the small aneurism is overlooked until the stage at which a cure can be effected is past. Since small aneurisms with thick walls, some small fusiform aneurisms, and dilatations of the aorta have no pulsation, and often give very few physical signs, the *x*-ray is our best means of detecting them. Deeply seated enlarged glands, new growths in the chest, tumors of the mediastinum, all of which are generally difficult of diagnosis, are well made out by an *x*-ray examination. By means of a metallic sound or soft rubber tube filled with mercury or shot after its insertion, a diverticulum or stricture of the esophagus is demonstrated. I have seen one such esophageal pouch immediately above the stomach in which the exact location and size were ascertained by this method.

THE ABDOMINAL AND PELVIC ORGANS

The abdominal and pelvic organs do not present the same differences in density of structure that we are fortunate enough to find in the chest, and hence the *x*-ray examination is much more unsatisfactory and difficult here. Certain precautions should always be adopted before a fluoroscopic picture or radiograph is taken. A brisk purge should have been administered, and time for its action allowed. The large bowel should be cleared by a high enema. The stomach should be free from food, except when bismuth has been introduced with food purposely to bring out the stomach outline. All clothing should be removed, and the patient covered by a sheet only, and the pessary or vaginal tampon, especially if medicated with iodoform, bismuth, or other substance casting a shadow, must be removed. While in Chicago a prominent physician showed me a beautiful skiagraph of a pelvis taken to locate a suspected stone in some portion of the urinary tract. The negative revealed a large, dark, round mass, seemingly in the bladder, which was interpreted by the maker of the skiagraph as a stone in the bladder with a somewhat soft center. The shadow was that of a round ring pessary. The maker of this skiagraph, while a very skilled electrician and a radiographer of more experience than any other in Chicago, is not a physician, and for that reason fails in some instances to get the best results, and makes many erroneous interpretations of the picture, which a physician would never do. The oversight in this instance gave rise to no trouble, but it is another illustration of the necessity of this work being done by a regular physician, skilled in other methods of diagnosis. Hollow viscera, such as stomach or bowel, may be distended with gas, and thus cast a lighter shadow and show in marked contrast to the more dense adjacent and displaced organs, such as the spleen and liver next to a distended stomach, or an enlarged uterus or tumor of the uterus, ovary, or broad ligament adjoining the distended and empty bowel. I have seen several skiagraphs in which the fetus in a gravid uterus or an extra-uterine pregnancy appeared, and cleared up a doubtful diagnosis.

But in abdominal work it is especially in the discovery of calculi of the gall-bladder, kidney, and ureters that the *x*-ray has been of great value. In these cases it has no peer. The more inorganic matter the calculi contain, the more definite and marked becomes the shadow. Two or three negatives should always be taken. Cases in which the usual symptoms and signs point to a stone, and in which these symptoms are confirmed by identical shadows in two or more skiagraphs, taken under proper precautions, are no longer in doubt. The absence of stone-shadow does not, on the other hand, prove the absence of a calculus. The skiagraph only is satisfactory for this work, and often is of more help in localizing the stone than in calling attention to its presence.

Doctor Walter Allport was kind enough to show me a skiagraph and to relate the history and operation of a patient, in whom a comparatively small stone was discovered by the *x*-ray low down in the right ureter. The doctor was thereby enabled to cut directly down upon it, and remove it without unnecessary or uncertain manipulations, the more fortunately because the patient was very stout and fleshy. The skiagraph has demonstrated that many of these calculi are found in the ureters, about fifty per cent, for the removal of which the kidney was formerly explored. They become fixed here, and do not pass out, but often increase in size, and cause much trouble. These cases of calculi, ultimately surgical, are, so far as diagnosis and early treatment go, medical, and are easily confounded with indigestion, colic, and ordinary inflammatory processes. A clear-cut method of determining their presence will clear up a long train of troubles. In radiographing biliary calculi, a powerful current is necessary, as the exposure must be very short and made between respirations.

I am under obligation to Dr. R. O. Beard for his assistance and the use of his apparatus in doing much of this work.

CONCLUSIONS

Not only from a review of the reliable literature at hand but from personal work and observation I am convinced:

1.—That the *x*-ray is a very valuable aid in the diagnosis of many medical diseases, and of primary importance in the diagnosis of several.

2.—That for the internist, at least, who confines his work largely to chronic ailments, it becomes especially valuable, and that it is entirely feasible for him to make office examinations of suitable cases.

3.—That the rapid improvement in apparatus and technique, and the need of careful training on the part of the observer, will prevent for some time its successful employment by the ordinary practitioner.

4.—That while we must admit an idiosyncracy to the *x*-ray in some persons, the danger of burn to the operator and to the patient, if proper precautions are taken, is very small.

SO-CALLED CHRONIC CATARRHAL ENDOMETRITIS*

By A. W. Abbott, M. D.

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MINNEAPOLIS

A very common condition, characterized by a more or less profuse leucorrhea, excessive menstrual flow, or intermenstrual bleeding, often sacral and dragging pelvic pains, and dysmenorrhea in nulliparæ, is, when long continued, known in our text-books as chronic endometritis.

In certain forms of chronic endometritis the histology and pathology, as well as the treatment, have been well worked out. These are the true inflammations of the endometrium, which arise from tuberculosis, malignant disease, and syphilis, and the endometritis of old women or senile endometritis. These will not be taken up in this paper. It must also be distinctly understood that the following statistics and remarks have no reference whatever to any acute form of endometritis, except as standing in a causal relation.

The condition, then, we propose to study is that most frequently called chronic catarrhal endometritis. Were all the opinions held as to the pathology of this disease to be given, it would necessitate the detailing of each writer's views, so numerous and opposite are the different theories announced.

In reviewing this subject in our different best text-books, one is particularly struck by the want of definiteness in data and conclusions, and often by the final admission of want of knowledge as to the most essential pathological features required to give the condition a status as a distinct disease, and therefore to give it a name.

Some of the latest authorities question the fact of its being an inflammation at all; others consider it as an inflammation essentially of the subjacent musculature, others that it is really an adenitis, and so on.

This study is based upon 50 chronic cases. All acute cases have been excluded, and no cases following abortion or acute gonorrhea have been included, if within a year of the acute stage. Forty-five curettings and the endometrium still attached to the myometrium in five cases, where the uterus had been removed, furnished the material for this investigation.

A few of the specimens were fixed in formalin, and frozen sections made, but for the most part they were fixed in alcohol and cut in parafin. The stains used were hematoxylin and eosin, methyl-blue, and a few were stained in paracarmin.

The following parts were especially studied: the stroma of the mucosa, including the character of the cells, condition of the bloodvessels and lymphatics, and round cells and blood infiltrations; and the glands as to size, regularity, condition of epithelium, and contents.

The surface epithelium and myometrium were examined when present.

Due allowance was made for the effects of fixing agents, the mechanical distortion due to the curette, and other handling, and nearness of the mentrual period, etc. None of the women had passed the climacteric. All of these 50 cases had a troublesome leucorrhea. Thirty-seven, or 74 per cent, had excessive menstrual flow, and some of these had also intermenstrual bleeding; 18 had had previous abortion, the elapsed time since ranging from two to twelve years. In 7 only was there a probable history of gonorrhea. Six of the women were single and 44 married or widows; 29 of the married had had children, and 6 of the married were sterile. There was no history as to the remaining 9.

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*Read before the Minnesota Academy of Medicine, April 1, 1903.

No definite cause could be assigned for any of these cases. No history of an acute endometritis could be obtained in any case.

Results of examination:

Stroma cells were normal in 36, or 72 per cent. (If 9 cases in which there were only a very few scattered round cells, i. e., practically normal cases, were included, the total would be 45, or 90 per cent.)

In only 2 cases, or 4 per cent, was there a well-marked round-cell infiltration, and that was in circumscribed areas and never diffuse. The capillaries were normal in 33, or 6 per cent.

In 8, or 16 per cent, the capillaries were filled with blood.

The surface epithelium was normal in all cases when present, except in 2 where there were patches of squamous epithelium.

The lymph spaces were clear of leucocytes, except in 2 cases.

The glands were practically normal in 10, or 20 per cent.

The glands apparently increased in number in 19, or 38 per cent.

The glands dilated and distorted in 36, or 72 per cent.

The gland epithelium was normal in 13, or 26 per cent.

The gland epithelium was irregular in form or position in 34, or 68 per cent.

The glands were filled with mucous cells in 4, or 8 per cent.

The glands were filled with blood in 4, or 8 per cent.

The endometrium was markedly thickened in only 2, or 4 per cent, and should be included in the next item.

The endometrium was nodular (polypoid) in 6, or 12 per cent.

There were minute hemorrhagic areas in the stroma in 8, or 16 per cent. In about one-half of these the blood was in clots, in others the blood cells were infiltrated between the stroma cells.

Patches of squamous epithelium were found upon the surface of the endometrium in 2 cases, or 4 per cent. No squamous epithelium was found in the glands. Of the five cases examined where the endometrium was still attached to the myometrium, in 4 the myometrium was normal, and in 1 a few round cells were seen about the vessels, and in this one there was a decided thickening in the vessel walls.

No bacteria were found in any of the sections.

It will be seen that all percentages relating to abnormalites in the stroma are small, while the glands show 68 per cent of abnormal epithelium, and 38 per cent of apparent increase in the number of glands.

It will also be noted that, of the evidences of inflammation in the endometrium and muscle combined and well marked, there are only 2 cases, or 4 per cent.

We must conclude, therefore, that the disease in these 50 cases consisted essentially in large tortuous, dilated glands, with changed form and relation of the epithelium, and in 38 per cent an apparent increase in the number of the glands. The word apparent is used because there is no fixed standard by which to estimate the normal number of glands. They undoubtedly vary with each individual, but for manifest reasons the increase in number of glands in disease cannot be demonstrated.

In the glands themselves there was no evidence of inflammation, no round-cell infiltration, no bacteria, no exudate. The irregularities of the glandular epithelium consisted of unevenness in size, arrangement, variations in size of the nuclei and in the frequent interpolation of large mononuclear cells, with a very clear protoplasm between the proper gland cells.

According to the present conception of inflammation we must exclude it as an existing condition, whatever may be its status as a causative agent. Wertheim calls it a "hyperplastic hypertrophy of the endometrium." But the glands are not hypertrophied; they are simply dilated. There is no evidence that the cells are increased in numbers and the only sign of hyperplasia is the occasional occurrence of clusters of very small glands, the history of which we know nothing of. There must be some irritant that excites the glandular secretions. The glands in these cases do not seem to be occluded at their mouths. They are not simply retention cysts. Various theories have been put forward in explanation of the condition. One is that the micro-organisms still live, although they cannot be stained or demonstrated, and that their poisonous products furnish the irritant. Another, that the general body toxins, as in rheumatism, gout, syphilis, indigestion, etc, are the excitants. All these are speculative, and the writer has nothing to offer upon this part of the subject. If we cannot give this condition a name in accordance with its etiology or pathology, we can at least discourage the use of a wrong name that has not added to our conception of the condition, but has led to an inefficient treatment. Curettage is probably the most satisfactory treatment yet divised, but when we curette we only remove the diseased tissue, instead of curing it, and trust to nature to do better the next time. We remove a diseased endometrium in the hope that a better one will take its place.

Note.—The discrepancies in the totals for some of the percentages are partly because some of the appearances were doubtful and a positive decision could not be reached, and partly for the reason that some of the items are naturally included under two or more heads.

CHOLECYSTECTOMY*

By James E. Moore, M. D.

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MINNEAPOLIS

I wish to illustrate to you some of the phases of gall-bladder surgery by two patients upon whom I have recently performed an operation for removal of the gall-bladder.

This woman came to me about two years ago when she was in a desperate condition from an acute suppurative cholecystitis. I removed a large number of stones and drained the gall-bladder. After a long and stormy convalescence she recovered, and went home with a fistula which was draining bile. At that time cholecystectomy, or removal of the gall-bladder, was not done as frequently as it is now, and was not considered in this case. At the present time, with the growing popularity of cholecystectomy, I should question the advisability of the operation in a case such as this was. Her gall-bladder was not gangrenous, and she needed drainage of the whole biliary tract, which could be done better through the gall-bladder than in any other way. Her intense jaundice made me fear that the common duct might be obstructed, although there were no stones in it.

I have not seen her since she left the hospital until about ten days ago, but she tells me that after a time the fistula closed. Soon after the closure, however, she began to suffer pain, which continued until the fistula reopened. After this the fistula discharged pus and mucus, but no bile. The sinus closed several times, but each time the closure was followed by pain, which continued until it reopened. The last time it closed was shortly before she returned to me. At that time she had quite a large accumulation of pus, and was very ill, which decided her to come to me for relief. It was very evident that the cystic duct was closed either by a stone or inflammatory adhesions, so the only hope of relief was through the removal of the gall-bladder. She was not jaundiced, which proved that the common duct was open.

One week ago I removed the gall-bladder, and found that there was no stone, but that the cystic duct was thickened and closed by inflammatory deposit. I tied off the duct with a catgut ligature, and drained the wound. It is surely safer to drain in cases like this where there is a septic condition to begin with, and subsequent events proved the wisdom of drainage in this case, independent of sepsis. Aside from severe pain this patient did very well until the third day, when I received a message from the hospital that she had a pulse of one hundred and thirty, and was looking bad. Upon inquiry I learned that there was some drainage of bile. I was satisfied that the sudden rise of pulse was due to escape of bile into the peritoneal cavity, and arranged the dressings so as to encourage free drainage, which was followed by prompt improvement. She is now safely convalescing. It is evident that I placed my ligature beyond the point where the duct was obliterated, and then cut the stump so short that the ligature slipped off. The escape of healthy bile into the peritoneal cavity is not an untoward event, but it is to be avoided when possible. We are sometimes obliged, for reasons beyond our control, to allow the bile to drain this way. In such a case it is wise to pass one rubber tube, surrounded by gauze, down to the point where the bile escapes from the duct, and another one into the peritoneal pouch beneath the liver. Some operators advise that a counter opening be made through the flank for drainage.

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*Abstract of a Clinical Lecture delivered at the Northwestern Hospital before the Senior Class of the University of Minnesota.

This man is sixty-three years old and has been suffering from recurring attacks of gall-stone colic for several years. He has often been jaundiced after an attack, a symptom which is wanting in most cases. A few days ago I operated upon him, removing the gall-bladder and a large number of stones. This case has been very instructive to me because I wasted as much time in trying to remove two stones that were packed in the cystic duct as would have sufficed to remove the gall-bladder, and I finally was obliged to perform a cholecystectomy. In future, when I find the cystic duct obstructed and the common duct free, as in this case, I shall proceed to remove the gall-bladder as the safest and best operation. In this case it was almost impossible to remove the stones from the cystic duct because the enlarged gall-bladder was misplaced to the right and adherent to the underside of the right lobe of the liver, and the duct was so bound down by adhesions that it could not be lifted up, but the removal of the gall-bladder and duct was a comparatively easy matter. Had I succeeded in removing these stones I am satisfied after examining the specimen that the gall-bladder would never have performed its function, and that a fistula would have remained, so that a subsequent operation for the removal of the offending organ would have been necessary. I drained in this case, but there has been no leakage of bile and the wound is aseptic, but I think it was a wise precaution.

This man will doubtless make a good recovery. There is no doubt but that we shall remove the gall-bladder very frequently in future. The mortality is very little higher in cholecystectomy than for cholecystotomy, and the only reason it is any higher is that it is performed only in complicated cases.

ON THE PROGRESS OF MEDICINE SINCE 1803

From the Edinburgh Review

IN THREE PARTS—PART III

To discover by experiment any easily applied and trustworthy method of producing immunity to the morbific influence of the microbes which cause dysentery and typhoid fever would be worth the lives of many rabbits, or even of many dogs. It would save each year many thousands of valuable lives in the prime of life and vigor, and it would be a powerful factor in the civilization of the human race. Investigations upon possible methods of treatment, or prevention, of dysentery, pneumonia, and typhoid fever, based upon the knowledge now gained of their microbial origin, are being carried on. Often the problem is complicated by evidence which suggests that one illness—*e. g.*, pneumonia—may result in different cases from the development of any one of several micro-organisms; that the specific cause of an inflammation may be multiple. There is also much to learn as to the conditions which morbid germs require for their power to develop and to produce disease. The diphtheria bacillus, for instance, is often found to be present on the mucous membrane of the fauces in persons exposed to the infection of diphtheria, but in whom no illness has resulted, or does result. What is the secret of immunity in such cases? We do not know. In the South African war typhoid fever and dysentery killed many more than the Boers did. How to prevent typhoid in armies is a problem which ought to be studied with open minds and with immense patience by those responsible for the health of the soldiers. Official optimism and indifference to all loss of life with which the Army Medical Department is familiar ought to be sternly checked at the War Office. Even with our present knowledge, it is nothing less than a disgrace to admit that soldiers cannot be protected in large measure against typhoid. The provision of an adequate amount of boiled water is not a task beyond the skill of man to perform, and there is good reason to believe that even with this precaution alone the loss of life from enteric would be enormously diminished. In civil life also the number of valuable lives lost from typhoid fever is a reproach to medical science, and no efforts should be spared to wrest from Nature the secret by which immunity might be gained.

Closely connected with the study of bacterial organisms, and depending, like it, upon the greatly increased power of the modern miscroscope, is the study of the blood, in which most important advances have been made within recent years. Even under normal conditions the serum of the blood has some antitoxic or bactericidal property. The white cells in the blood are of several kinds; they have different functions, and it is the special function of some of them to attack and incorporate bacteria by a process which can only be called digestive. These cells are the scavengers of the tissues; they pull down and remove waste material, wage war with noxious bacteria, and the immunity we usually enjoy from the assaults of bacterial invaders is due in part, at least, to their ceaseless activity and digestive power, or, as it is called, to phagocytosis. This view of the protective action of the wandering cells, which we owe chiefly to Metschnikoff (one of Pasteur's pupils), goes far to explain the connection we all know to exist between immunity from acute illness and good general health. While our garrison of defenders is strong and active, we are competent to deal with any ordinary attack from our bacterial foes, more especially if our tissues are unwounded. It has long been known that the best preservative against tubercular disease, for instance, is to be in a state of good health and nutrition; and we know now that this is because our standing army of white cells in the blood and the lymphoid system generally is then in its most effective condition. The knowledge of the importance of a high state of nutritional activity has of recent years been applied with excellent results in many morbid conditions, of which the more conspicuous are the treatment of tubercular disease of the lungs, and of chronic functional disorders of the nervous system. What is called the open-air treatment of phthisis is essentially an attempt, happily often quite successful, to so increase, by pure air and much food, the resisting forces of the system that the morbific bacteria are overpowered, and the healing of the injuries they have caused becomes possible. Lung tissue that has been destroyed cannot be replaced as such, but the wounded parts may heal with scars and fibrous tissue and contraction. The Weir Mitchell treatment of chronic nervous failure also depends upon a recognition of the immense value of high nutritional activity.

Our knowledge of the life-history of the red blood-corpuscles has also been greatly extended. We know now that they are mainly developed from the nucleated colorless cells of the bone marrow, that they vary greatly in size, form, and oxygen-carrying power, and that these variations are related to different forms of anæmia. Another advance in practical medicine made in recent years is the fuller recognition we now have of the interdependence of all parts of the organism; the belief that every gland contributes something to the blood which is necessary for the general well-being; that excretion is only one side of the function of even the chief excretory glands, what they put into the blood being of importance as well as what they remove from it. This "internal secretion" has been specially studied in the case of several organs the true and important functions of which have only recently, by means mainly of experimental physiology, been appreciated. We know now that a semi-cretinoid condition is caused by the wasting of one gland, diabetes by the wasting of another, and Addison's disease by the wasting of a third. In one of these diseases the morbid condition can be arrested and health restored—and it is one of the most wonderful facts in medicine—by eating daily a small quantity of the gland that has failed, deriving the substitute from the sheep. The investigation into the real nature of malaria, and into the mode in which the disease is communicated to man, is another of the great triumphs of modern medicine. The existence of a malarial parasite has long been suspected. Exact knowledge on the subject has only been gained within the last twenty-two years. It is now certain that malaria is due to the presence in the blood of a parasite which occupies a definite time in going through its life cycle, and that the hot and cold stages of the illness correspond precisely with certain of the steps of this cycle. The varying forms of malaria depend upon parasites of related but separate groups, each of which has its own life-history and rate of development. The malarial parasite is conveyed from man to man through the agency of the mosquito and of the genus anopheles. The mosquito receives into its stomach from man some blood containing the parasite, which forthwith goes through certain developmental changes, and in the end the germs make their way to the salivary gland of the mosquito, and hence get transferred to a new victim. The mosquito is not only the carrier, but also the intermediary necessary host of the malarial parasite during an important part of its life-history. These facts have been ascertained by immensely patient work on the part of Laveran, Grassi, Celli, Ross, Manson, etc.; the steps gained by reasoning and by microscopic investigation have been confirmed by two carefully planned experiments. Five people spent the worst months of the year in a highly malarious district in Italy, taking no quinine and living out of doors except when the mosquitoes feed—*i. e.* just before sunset and in the night. At these times they were carefully protected by wire blinds to their windows and doors, and mosquito curtains around their beds. They had no malaria. The second experiment consisted in feeding mosquitoes of the anopheles group on patients suffering from malaria in Italy, sending the infected mosquitoes home, and letting them feed on two of the heroic investigators, who forthwith had well-marked attacks of malarial fever. That the problem is absolutely solved in all its points is probably not the case. It may be questioned, for instance, if man is the only necessary host for the parasite in its first stage, and, if so, why severe malaria has often occurred in exploring countries hitherto uninhabited by man. Does man share with some other animal the melancholy honor of being the parasite's first host, or is his position unique? In the latter case, how does the parasite live in the absence of man? It will probably be found that the malarial parasite is capable of using several animals, of whom man is one, as its host. But the knowledge that has been gained, even if not all we want on the subject, promises to be of enormous practical advantage. Life in tropical and semi-tropical countries will be indefinitely helped if malaria can be controlled and prevented, and it no longer seems Utopian to hope that this will soon be possible.

Within the last decade of the century under review several important advances have been made in the study of light, and in the therapeutical effects which may be derived from light. It has been discovered that the ultra-violet rays are more powerful in their effect upon tissues and upon morbid bacteria than any others, and on this discovery the Finsen's light treatment of lupus and of some forms of malignant disease has been based. There is already good reason to hope that several diseases hitherto considered incurable have been, in some cases at any rate, absolutely removed by the action of the ultra-violet rays, applied with due precautions, for a considerable length of time. Further development of knowledge and of therapeutic usefulness may be expected in this direction at no distant date.

Even more remarkable has been the discovery of a new form of radiation, known as the X or Röntgen rays. These rays are produced only in tubes containing highly rarefied air, through which an electric current is passed. When the tube is covered with a closely fitting mantle of black cardboard, it is observed (in a completely darkened room) that a paper screen washed with barium-platino-cyanide, or with certain other chemicals, lights up brilliantly, whether the side washed with the fluorescing material or the other side be turned towards the tube. The fact that rays capable of exciting brilliant fluorescence were able to pass through thick black cardboard led to the discovery by Röntgen in 1895 that all bodies are transparent, though in different degrees, to the rays so produced. It was found that the rays were also photographic if received upon a duly prepared plate. This new form of radiation has been extensively used in surgery, and its application to medicine, both for diagnosis and treatment, is daily extending. What is seen is the shadow (or the photograph of the shadow) of the parts or structures through which the rays have passed, the shadows deepening in proportion to their resistance to the rays. The correct appreciation of the depth of many shadows, and the power of calculating the plane on which a hidden foreign body showing a shadow will be found, are obviously only possible after considerable care and practice. The exposure required to get the shadows varies considerably, and it is never short, as in photography. The rays themselves can do harm, especially after a long or frequently repeated exposure, or undue nearness of the focus-tube to the skin. A large number of instances of severe injury have been reported, some of which have ended fatally. It is therefore not probable that as a method of investigation the Röntgen rays will ever become of great use except as applied by experts. On the other hand, the high degree of potency which these rays possess may very possibly be applied to therapeutic usefulness. If tubercular or malignant disease of the skin can be removed by them, it is not impossible that they may favorably affect deeper structures. We have at any rate in them a new power, which it may eventually prove possible to apply usefully in many directions, and which demands most careful study.

In the progress of medicine during the last twenty-five years the influence of the best universities in the United States, and in a smaller degree of those in Canada, has been a factor of considerable importance. The standard of work at, for instance, the Johns Hopkins University of Baltimore, U. S. A., has conspicuously succeeded in influencing the best European workers on pathology, clinical medicine and surgery. The reasons why certain universities in the United States have made their work felt so much more powerfully than any similar institutions on this side of the Atlantic cannot be stated in a few words and at the end of an article. It is a complex problem made up of many factors. Among them, however, it is safe to say that the magnificent liberality shown by rich men and women in endowing some of the best universities in the States and in Canada occupies a very important place. Original research on any large scale is impossible in the absence of big endowments. The patient study of how to apply the results of research to clinical medicine and surgery is almost equally impossible without endowments. The best intellects of the age are wanted for progress in both these directions, and they cannot be had for the work if they are forced to allow themselves to be absorbed in the duty of earning a living on a lower intellectual plane. If England is to keep up with the United States in research and its applications to pathology and medicine, large endowments must be forthcoming for Oxford and Cambridge, and for the University of London. Failing them we shall have to be content with admiring the work done in the best American universities, and with taking a second place ourselves.

Space compels us to leave unmentioned the advances made in many other directions, notably in knowledge of diseases of the nervous system, in ophthalmology, in otology, in psychology, in rational therapeutics, in hygiene, in public health, and in the administration of hospitals. The new century begins its history from a vastly higher standpoint all round than its predecessor did. But chiefly our hope for it lies in the desire, which has become so much more acute and general within the last fifty years than perhaps ever before, to get away from the bondage of theories and hypotheses, and to be able to question and cross-question facts till their full meaning becomes plain. The true students of medicine are to-day everywhere struggling to get to the heart of the disturbing influences which break up the harmony of health and life. They are asking not for petty nostrums against this ailment or the other, but for the wisdom which shall make them "privy to the mystery of knowledge" in all that concerns health.

DON'T ALWAYS ASK FOR SYMPTOMS

"What have you got?" said the doctor to the waitress.

"Fried liver, devilled kidney, and cold tongue."

"I don't want your symptoms, good woman, but my breakfast."

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OSTEOPATHS VICTORIOUS

The bill of the osteopaths is now a law, and will soon be in operation. The State of Minnesota is in line with a few other states that recognize the claim of the new sect. In Utah, Governor Wells promptly vetoed the osteopathic bill on the grounds that human life is too precious to be recklessly hampered by sectarian treatment; that the safeguards of science demand progress; and that the dogmatism of disputants must yield to truth and reason.

Trouble is in store for many osteopaths, because the powerful lobby that succeeded in getting the bill passed will crush out the so-called irregular practitioner, and the few will reap the benefit of the fad.

DEATH OF AN ANTIVACCINATIONIST

The recent death of the secretary of the Minneapolis Antivaccinationist Society during the session of the last deplorable legislature, and at the time the antis were fighting the vaccination bill, is an apparent effort of the laws of nature to impress a striking fact upon the dulled sensorium of a body wholly without scientific training, yet one that made laws demanding great scientific information. In the face of current report that an epidemic of smallpox is in progress an object lesson of this sort should be overwhelming evidence that a few startling facts are worth more than many untenable theories from unworthy sources. Why a body of representatives of the people who are gathered together for the good of the people, should be carried away by senseless arguments and unsustained statements, is one of the mysteries in the workings of the human mind. A sledge-hammer blow that appeals to the personal health and comfort of the individual, or to his purse, is the only way to impress upon him the value of a scientific fact. It is significant that during the illness of the antivaccinationist none of his adherents rendered him a personal service for fear of contracting the disease they so strenuously disbelieved.

The representatives who oppose legislation for public health must be limited and narrow if their views on to-day's problems are an index of their mental make-up.

At the next session of the legislature rabid opponents of vaccination should be invited to spend a part of their usual junketing tours in the quarantine hospital. It might be a good move to detain them during the entire session of the legislature, in order that their theories might work out their salvation, or allow the conservative members to make good laws. Or, better still, a few smallpox cases might be introduced in the capitol on the first days of the session, then the capitol be quarantined, and nature permitted to take its course. In this way lobbyists of all kinds could be excluded, and thus the thinking powers of the members brought out to their full capacity.

At all events, before the next unfortunate and unwished-for session, the medical men throughout the State must educate the people and representatives with a few well digested and supported statements.

THE WORK OF THE LEGISLATURE

If the legislature of Minnesota, which expired by limitation the other day, had suffered any other mode of death, it would have been a most unnatural ending. If, in its shortcomings, it fulfilled its destiny, the fact is a discredit to its constituencies. A legislature which achieves little positive good and does much negative mischief is one which marks either a low tide of public sentiment or a dead calm of popular indifference; but neither the one nor the other is characteristic of our western civilization.

If, with the passage of a few appropriation bills, by which, good or bad, the business of the State is kept going, this legislature had adjourned to draw its per diem at home, it is an open question whether the State would not have been better served. As it is, it may well plead the miserere of the Book of Common Prayer, "We have done those things which we ought not to have done, and we have left undone those things which we ought to have done, and there is no health in us."

The medical profession is particularly interested in noting what the legislature has done and what it has not done in the interests of the public health.

PURE-FOOD LAWS

It has enacted several pure-food laws which will strengthen the hands of the State Dairy and Food Commission, and, if duly enforced, will be protective of the food consumer. For the most important of these measures the people are largely indebted to Dr. J. D. Budd, of Two Harbors, a member of the lower house.

A SANATORIUM FOR CONSUMPTIVES

It has passed a very much emasculated bill for the creation of a State Sanatorium for Consumptives, backed by an appropriation, reduced from the $200,000, which the commission asked for, to $25,000. With this small amount of money, little more than a beginning of things can be made. Land must be acquired in the vicinity of Walker, and a generous acreage should be secured. Wide room is of the essence of success in such an undertaking. If necessary, the money available should be spent in the purchase of land, and the further development of the enterprise should await larger appropriations by the next legislature. The act, as passed, contemplates an ultimate expenditure of $125,000.

The advisory commission for which it provides, consists of physicians, one of whom is to be a homeopath. The duties of the commission, which is to be a continuing body, are the approval of site and plans for buildings, and the nomination of examining physicians. It should have the nomination of the hospital superintendent, under the appointment by the Board of Control, and the supervision of the professional conduct of the institution.

THE TREATMENT OF THE INSANE

That medical science has at length secured a full recognition of the idea, for which Pinel stood, that insanity is a disease, and that state institutions for its control should be hospitals for the treatment and not asylums for the incarceration of the insane, is established by a new provision of law which restricts the commitment of the harmlessly defective or the incurably diseased. The principle is a progressive one, but the law needs to be further supplemented by the establishment of detention hospitals for doubtful cases and by better provision for the county care of chronic patients.

ANTIVACCINATION

An antivaccination law is the product of the most persistent lobbying that militant fanaticism could inspire. The bill was discountenanced in committees, amended in the house, killed in the senate, resurrected from its defeat, and finally passed. Fortunately, some amendments rob the measure of much of its initial power for mischief, but such a measure, even in name, is a menace to preventive medicine, and must tend to the spread of the contagium of smallpox in the years to come. Its enactment is a commentary upon human intelligence in the mass. All the facts and figures are on the side of vaccination, but the small infringement of personal liberty—the forced contribution to the good of the greater number—which compulsory vaccination involves, is sufficient to outweigh the evidence of universal statistics, and to discredit perhaps the most brilliant achievement in the control of human disease which the history of preventive medicine records.

It is probably true that the comparative mildness of the late epidemic of smallpox has served to disarm the popular fear of the disease and to encourage the antivaccinationists in their crusade. The death of the principal crusader from malignant smallpox, during the very week in which the bill passed, is a sad commentary on the measure. Improved aseptic methods of vaccination and a public experience sown with suffering will, in the course of time, bring the people back to an appreciation of the value of prevention.

THE SANITARY CODE

An admirable attempt was made in this legislature to codify the sanitary legislation of the State. The code was well conceived, but unfortunately weighted with two or three new features of which the legislators were afraid. Fear is always in direct ratio to ignorance. It takes the clear light of knowledge to reveal the harmlessness of new forms. The measure was rejected. It was too much of a problem for the legislature. There is a moral in its rejection, which may be applied in its proper place.

THE LIVE-STOCK SANITARY BOARD

Perhaps the most serious damage to the public health which has been done by this legislature, is in the transfer of authority over animal diseases from the State Board of Health to a Live-Stock Sanitary Board. Private interests have seldom dealt a more dangerous blow to the public welfare than the enactment of this most uncalled-for measure. Commercialism has simply got the better of sanitary science. There was no decent excuse for this law. The work of the State Board of Health in the department of animal diseases has been singularly successful from both sanitary and commercial standpoints. The relationship between human and animal disease has never been more closely recognized; the importance of their conjoined study never more clearly demonstrated. The protection of human health is the primary object of the control of contagious and epidemic disorders in domestic animals; the economic question is secondary. The first is guaranteed by a medical and veterinary board; the second only is likely to be a dominant consideration at the hands of the cattle-men. Their economic welfare should be studied, but it should not be shielded by any exercise of the police-power of the State. Such exercise, for the benefit of any class, is counter to the rights of the public for the conservation of which that police-power is alone created.

And, even though the public should be as well served by the new Board as by the old, the admirable service of the latter deserved better treatment at the hands of this law-making but not always law-deliberating body.

THE OSTEOPATHIC BILL

After fighting a drawn battle in two Minnesota legislatures the osteopaths have won in a third. Their persistency has certainly been deserving of reward in a better cause. That they have obtained their demand for a State Board of Osteopathic Examiners and Registration is not an evidence of the growth of osteopathy. It is the evidence of the effective organization of a few men of force for the purpose of obtaining protection against the great horde of incompetent practitioners who are dividing up the revenue and discrediting the system.

The Committees upon Medical Legislation of the State Medical Societies made a hard fight against this piece of special legislation, and in favor of a common law under which all who practice medicine, of any and every school or system, might be fairly legalized, but they went down before superior organization and more "practical politics." The lesson is one which he who runs may read.

Medical education has received a severe blow, for the osteopaths practice medicine, if they practice anything, the legislature to the contrary notwithstanding; and a depreciated standard for the admission to practice of one school cannot but lower the level of attainment of the average in all schools. In fact, the supreme court of Alabama has rendered a decision to the effect that the practice of osteopathy is the practice of medicine. The proposition is one so self-evident that it cannot be disproved by act of legislature.

The older schools of medicine need not take the situation too seriously to heart so far as its permanently ill effects are concerned. State boards, despite this dangerous precedent, will not further multiply. The common sense of the people and the natural course of events in scientific evolution will take care of that. Osteopathy has enjoyed a not unusual season of popularity. As a system of healing it is on the wane. The residue of good which, in passing, it precipitates, will find its solvent—is finding it—in the broadening stream of scientific medicine. It has had its day and has had some reason, in the non-appreciation of manipulative measures of treatment, for its being. In fifteen years osteopathy will no longer be a name to conjure with, and the osteopathic law will be the laughing-stock of medical legislation.

THE MEDICAL PRACTICE ACT

The revision of the medical practice act which the Committee upon Medical Legislation of the State Medical Society introduced was a very desirable amendment of the present law. It proposed to do away with the pernicious affidavit clause and the indefinite definition of a physician in the existing law. It offered an examination system from which sectarian subjects were eliminated, and introduced a reciprocity clause which is a matter of professional demand. The bill was buried by the indifference of legislators in the absence of any effective support by the medical profession at large.

THE PROFESSION IN POLITICS

It is high time that the medical profession took to heart the question of its position in public life. It is not a force in politics as it ought to be. There are at least two reasons for this. It lacks organization for political work—for legislative influence. It must equip its forces for pre-election service if it would win from legislators a consideration of the public needs for which the profession stands. It was an open boast of senators in committee that they had agreed not to permit the presentation of medical bills and, if introduced and referred to committee, not to grant a hearing to medical men upon these measures. Such high-handed restriction of the legislative rights of the people can only be fitly rebuked at the primaries and at the polls.

But this legislative attitude enforces a lesson. It means that the medical profession is not the factor it should be in public life, that in its exemption from civic duties, it has forgotten its civic privileges, that its members do not play the public-spirited part they should in the determination of questions affecting the public health, that they are not the recognized authorities they ought to be in sanitary concerns. Too busy in the struggle for existence, an over-crowded medical profession has neglected its duty to the State. It has, in America of the West, too generally, abandoned the place of honor in the health councils of the people which in older communities it fills with influence and respect.

SCIENCE COMMISSIONS

The experience of the profession and the people in the hands of this legislature, emphasizes the needed recognition of a principle which American law-makers have too long ignored.

Special knowledge is requisite to the consideration of scientific measures. That special knowledge the average legislator does not possess and cannot gain within the brief period of his service and amid the turgid contentions of the committee-room. Safety of legislation lies in the submission of all important scientific and sanitary measures to a commission of experts, to be appointed under the terms of law, which should report upon them with authority. Such reports would win respect and gain for the public well-considered results upon the statute-books. This practice of older countries should be generally adopted by the American states.

Telling illustrations of the value of the method were before this legislature in the act for the creation of a State Sanatorium for Consumptives which was the valuable product of a scientific commission's study, and in the improvement of legislation governing the commitment of the insane, which was the ripened result of the careful consideration of the question by scientific men. Let us go ahead more slowly and more surely along these scientific lines. A sanitary code or a medical practice act, a vaccination law or a live-stock sanitary board measure might have met a different and a more salutary fate had they been intelligently considered and reported to the legislature by expert commissioners of authority in each field. Fewer legislative blunders would be committed and more enduring and more carefully codified laws would be attained by this scientific method.

R. O. Beard.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

R. O. Beard, M. D., Secretary.

Stated meeting, Wednesday evening, April 1, 1903, at the Hotel Nicollet, Minneapolis; the vice-president, Dr. Wm. Davis, in the chair.

Dr. Dunsmoor presented a case of exstrophy of the bladder. A boy, fifteen years of age, with a space between the symphysis pubis two inches. There was a rudimentary penis and also epispadias. Testicles were well developed and contained in the scrotum. The patient had been unable to find anything to control the urine as it emerged from the urethra, so that it had all his life constantly dribbled down his trousers and into his bed when he slept.

Dr. Dunsmoor operated, enucleating each ureter from its point of emergence back, upward and outward, following the pelvic wall until it led along the wall of the rectum. This was punctured by an artery forceps that was pushed in through the anus; the free end of the ureter was seized and drawn into the rectum.

Instead of following the advice of Peters, the puncture was made on each side so as to make the least possible traction on the neighboring ureter. The rectum was drained by a rubber tube for the first three days, after which time the boy was allowed to retain the urine, which he did for increasing intervals, the longest being eleven hours, which, evidently, overdistended the rectum somewhat so that there was some leakage from the tract of the incision of the left ureter.

Aside from this the convalescence has been satisfactory.

Dr. A. W. Abbott presented a paper upon "So-called Chronic Catarrhal Endometritis." (See p. 153.)

Dr. J. L. Rothrock, of St. Paul, in opening the discussion of Dr. Abbott's paper called attention to the difference in structure of the endometrium as compared with other mucous membranes, and pointed out that caution was necessary in interpreting the microscopic findings to make due allowance for the periodic changes to which the endometrium is subject at the menstrual period.

Anatomically, endometritis is divided into that involving the cervix and that of the body of the uterus. The cases reported by the author of the paper appear to have been largely of the latter class. According to Dr. Rothrock's observation, corporal endometritis does not appear to be as common as is generally supposed. His conclusions were drawn from the examinations of the scrapings obtained from a large number of indiscriminate curettings, in many of which little or no appreciable change was found in the endometrium, even where it was suspected. Kelly in his "Operative Gynecology" confirms this opinion.

Clinically, endometritis is divided into acute and chronic. While the acute form is invariably due to action of bacteria, the general concensus of opinion as regards the chronic is, that it is not the result of actual bacterial invasion, except the interstitial form which may sometimes be regarded as representing the terminal stage of former acute attack. In this form, the evidence of inflammatory change, the round-celled infiltration, is present, yet no bacteria are to be found, so that this form either represents an end-result of infection, or the inflammatory products must be regarded as having their origin in bacterial products, namely, toxines. The glandular form is generally considered as a hyperplasia, and in reality it frequently represents a proportionate thickening of the endometrium commensurate with the enlargement of the uterus, and may be the result of incomplete involution, displacement, general relaxation of the pelvic structures, laceration of the cervix or perineum, cervicals endometritis, inflammatory disease of the tubes and ovaries, or constitutional diseases which interfere with the systemic circulation, as heart diseases, anemia, and chlorosis. The most prominent clinical symptoms are hemorrhage dysmenorrhea, and leucorrheal discharge, the character of which indicates the portion of the uterus from which it comes. For example, if thin, milky, and serous in character, it comes from the fundus, whereas, if thick and tenacious, it comes from the cervix. The finding of the writer of squamous epithelium among the scraping from two cases, suggests that it came from the portio vaginalis uteri, as hyperplasia has only rarely been met with. If not, then these two instances are of unusual interest, and should be reported more fully.

The writer should be congratulated on having given an original contribution on a subject of so great interest.

Dr. Dunsmoor gave it as his opinion that the discharge from the uterine cavity was not so intractable as appeared from the paper or previous remarks. Clinically, many cases of specific origin were cured by application of argyrol or other silver-salts, while satisfactory cures were obtained by curettage of the uterine cavity, followed by application of carbolic acid and iodine, or even by insertion of iodoform gauze.

Dr. Abbott, in closing the discussion, said: These cases were all chronic; no acute cases were included. This is also proved by the high percentage (74) of hemorrhagic cases. This also goes to show that the curettings were all from the body and not from the cervix.

The two cases where the mucous cells were found in the glands, there can be no question about, as no one could make a mistake who was familiar with the very marked difference in the stroma, as well as the glands of the endometrium and cervix.

The squamous epithelium found in the two cases mentioned could not have been accidentally gotten from the region of the external os, as the cervix was not curetted in a single case, and in the section it is plainly seen that the squamous epithelium is directly continuous with the stroma of the body endometrium.

Dr. S. P. Rees, of Minneapolis, presented his thesis upon "The X-Ray in Medical Diagnosis." (See p. 147.)

Dr. J. W. Bell, of Minneapolis, applauded the paper and agreed to the supplemental value of the *x*-ray in diagnosis. The study of the diaphragm could be made in any good light, but more favorably with the *x*-ray.

Dr. R. O. Beard, of Minneapolis, expressed the interest he had taken in Dr. Rees' work. He had used the *x*-ray in physiologic demonstrations, as well as in clinical diagnosis. He emphasized important points in technique, and cited a case in illustration of diagnostic accuracy.

Dr. Arnold Schwyzer, of St. Paul, asked if the equipment controlled by the author of the paper was sufficient for reliable diagnosis. He cited a case of mistaken diagnosis of a renal calculus. He emphasized the need of sharp exposure in cases of gall-stones.

Dr. Rees disclaimed an expert quality in the work, but emphasized the need of professional study of this valuable means of diagnosis and treatment.

NEWS ITEMS

NEWS ITEMS

Dr. Mathias Gau has moved from Melrose to Freeport.

Dr. C. E. Wilson, of Dakota, has located in Hancock.

Dr. R. A. Beise, of Sauk Centre, has located at Brainerd, Minn.

Dr. K. H. E. Nissen, of Albert Lea, is building an addition to his hospital.

Dr. J. E. Butz, who has been practicing at Alden, has located at Monterey.

Dr. F. O. Gronvold, a graduate of Hamline, Class of 1901, has moved from Gary to Cannon Falls.

Dr. H. S. Clark, of Glencoe, is taking a special course in Chicago on eye, ear, nose and throat work.

Dr. R. J. Sewall, who recently went to Nashwauk, a new mining village in Itasca County, is building a hospital.

Dr. Emil Weschcke, formerly of Mankato, has been appointed to a professorship in a San Francisco medical college.

Dr. R. F. Whetstone, of Cass Lake, is home from a post-graduate course at Johns Hopkins. Dr. Whetstone is a graduate of Hamline, Class of '97.

At the April meeting of the McLeod County Medical Society Dr. Fred Sheppard, of Hutchinson and Dr. T. W. Hovorka, of Silver Lake, read papers.

The Upper Mississippi Medical Society held its meeting in Brainerd last month. Dr. S. W. Mowers, of the N. P. Sanitarium at Brainerd, read a paper on "Skin Grafting."

Dr. A. J. Rudolph, of Wells, has moved to Delavan. Dr. Rudolph is a recent graduate of the Northwestern University of Chicago, and has practiced in Wells only a few months.

The village of Hastings has received a handsome legacy for a hospital for the poor sick. Mr. Rudolph Latto bequeathed the city his fine residence and the sum of $10,000 for hospital purposes.

Dr. J. A. Du Bois has been elected mayor of Sauk Centre by a unanimous vote. Minnesota doctors are becoming great politicians, if we are to judge by the number of the profession now holding office, from coroner to state senator.

Dr. Bertha Frost, who has been connected with the State Hospital at Fergus Falls for nearly ten years, has resigned her position and gone to Michigan, her former home. She graduated from the homeopathic department of the State University in '94.

Dr. I. N. Wear, of Fargo, N. D., who recently started on an extended trip in Europe, was stricken with paralysis of the right side while in Chicago. He was attended by Dr. J. B. Murphy and other eminent physicians, and his ultimate recovery is hoped for.

At the annual meeting of the State Board of Medical Examiners, held in Minneapolis last month, Dr. Wm. Davis, of St. Paul, was elected president, and Dr. C. J. Ringnell, of Minneapolis, was re-elected secretary. This board has grown rapidly in efficiency, and its officers for the past few years deserve much credit for this growth and their work.

Dr. J. B. Carman has moved from Detroit to Erskine.

Dr. O. A. Burton, of Albert Lea, will be absent in Europe till July, spending most of his time in Vienna.

Dr. John D. Taylor who has been practicing a number of years in Stephen, Minn., has moved to Minot, N. D.

Dr. D. T. Quigley, of Litchville, N. D., has completed a post-graduate course at Rush, and has located in Lennox, S. D.

Dr. Enoch Haugseth, of St. Cloud, who has been in charge of Dr. Winberg's practice at Lake Park for some months, has entered into partnership with the latter. Both physicians are graduates of the State University.

Dr. O. L. Bertelson, who graduated from the State University, with the class of 1900, has located in Crookston. After practicing a short time at Beltrami, Dr. Bertelson went to New York where he took a special course in eye, ear, nose and throat work of which he will make a specialty.

Dr. George A. Patton of Lake City is building a residence on Avenue El Molino and Walnut street, Pasadena, California. The doctor and family have already spent fourteen winters in Southern California, and in the future they will reside in Pasadena every winter from September to May.

The Rice County Medical Society held its second meeting at Faribault last month with a good attendance. Papers were read by Dr. E. E. Brubaker on "Gunshot Wounds;" Dr. F. S. Warren on "Intubation;" Dr. M. L. Mayland on "Ectopic Pregnancy and Its Early Symptoms;" and Dr. F. M. Rose gave a clinical report of cases.

Dr. A. J. Liedhoff, a recent graduate of the State University, has begun practice in Mankato. Dr. Liedhoff has spent several months in the City and County Hospital of St. Paul.

Dr. Gilbert Seashore, who graduated from the State University last summer, and has been an interne at the Swedish Hospital of Minneapolis since graduation, has begun practice in this city with offices at Adams & Broadway, N. E.

The Eastern Dakota Medical Society held its annual meeting at Brookings, S. D., last month. Dr. A. J. Cox, of Tyler, Minn.; Dr. R. B. Lees, of White, S. D.; and Dr. J. G. Parsons, of Brookings, S. D., presented papers. The following were elected officers for the current year: President, Dr. A. J. Cox, of Tyler, Minn.; vice-president, Dr. E. Klaveness, of Brookings, S. D.; secretary and treasurer, Dr. J. G. Parsons, of Brookings.

At the April meeting of the State Board of Medical Examiners the following physicians received licenses to practice in Minnesota: William J. Little, St. Paul; George P. Wilkinson, Omaha, Neb.; Simon Ravish, Alexander R. Hall, St. Paul; Charles J. Maercklein, Le Roy; Jacob J. Zaun, Pewaukee, Wis.; John C. Sessions, Minneapolis; Charles E. Reeves, Clarissa; Jacob Kussart, Park Rapids; Delbert F. Dumas, George J. Goldblum, Minneapolis; Clyde B. Hoffman, Buhl; Louis W. Armstrong, Breckenridge; Albert C. Baker, Stephen; Arthur Kahala, St. Paul; Harry A. Larsen, Jennie E. W. Ward, Minneapolis; Ernest W. Cowern, North St. Paul; Charles F. Lewis, Austin; Alexander Aubin, Hamel.

Notice

The State Board of Medical Examiners will send their recently issued Official Register of Physicians to anyone remitting the cost of postage (five cents) upon the same.

THE SAMUEL D. GROSS PRIZE—$1200

This prize will be awarded on January 1st, 1905. The conditions annexed by the testator are that the prize "Shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize, shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page, it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 S. 13th St., Philadelphia," on or before January 1, 1905.

Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

NORTHWESTERN LANCET

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PATHOLOGICAL LAWS*

By H. D. Valin, M. D.,

Pathologist to the St. Peter State Hospital for Insane

ROCHESTER, MINN.

The converse of biological laws gives us pathological laws. Just as the survival of the fittest is the chief law in biology, so the extinction of the unfit is the main law in pathology. This law is seen at work between pathogenic bacteria and the human race, especially in epidemics of infectious diseases, and in chronic infections like tuberculosis. In the latter condition survival is not always altogether stopped by the struggle, though ultimately the bacteria conquer, since many years often elapse before the final triumph of disease.

Again, in the struggle between species and between individuals, disease, not always bacterial, often rapidly eliminates the conquered among the combatants.

From the highly active life of an adult to the last stage of disease ending in death, is a series of gradations like those met with in the evolution of life, the process being reversed so that a better term for disease in such cases would be devolution. The latest acquired functions, the intellectual, are the first lost, as in the delirium of fever or the mental reduction of insanity; and the vegetative organs sometimes long survive the apparent death of the rest.

When a given class of diseases is made the subject of special study, some law appears to determine the course and termination. Thus in mental disease, it seems that a recurrence of the cause bringing on the first attack brings on the death of the patient. This is best seen when a hemorrhage in one of the basal ganglia of the brain ushers in the insanity and a subsequent hemorrhage in the ganglion of the opposite side is the cause of death. This law is also seen at work when the uremia of a commencing interstitial nephritis is expressed by insanity and the uremia of its last stage brings on the death coma; also when a last convulsion closes the scene in general paralysis.

The law of variation throws much light on disease. The abstraction of those forces of nature most concerned in growth,—sunlight, fresh air, pure water and wholesome food, and temperate heat,—is no doubt the most important cause of disease and death. It is here that the heritage of disease is generally looked for, and the progeny, when such exists, shows the lack of variable tissue and functions. Stigmata mark them for primary degenerates, which are so plainly the embodiment of the unfit. And as a congeries of modes of forces brings the living organism into being, their disassociation is itself death.

Life is an integration, and disease is a disintegration, of force. And it is sometimes the case that integration takes place at one point at the expense of disintegration at another point, as instanced by the sickly mother in whom childbirth marks approaching death. Wherever growth or development is taking place the resistance of the individual to disease is slightly in excess, but where there is decadence there is also an excess of disease, as is well shown in old age. This pathological law of relation between decline and disease is applicable to organisms in general, animals or plants, to species and series of individuals, and, by analogy, is also applicable to social or moral organisms; that is, religions, governmental and educational institutions, etc.

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*Read before the Minnesota Valley Medical Society, April 28, 1903.

This is not the place to discuss the question whether all inorganic matter at one time or another has been organic. But inorganic matter clings to protoplasm, and eventually destroys it through retention of excrementitious compounds. Experimentally, according to the degree of impurity of the solutions used, we obtain crystals containing more or less extraneous matter, and most crystals formed in nature are impure.

In plants, especially the least well organized, as the equisetaceæ, a large quantity of sand and dirt finds its way along the vessels into every part of the plant; and so also, in some degree, in the greater part of the vegetable kingdom. One of the causes of this is that matter is primitively indiscriminately mixed in the soil, through the agency of water and other actions, and cannot all at once become differentiated into definite organic compounds; but it does become so after passing through various series of organisms, each one of which elminates its part of the foreign elements. Thus in animals the inorganic primitive substances are not by any means so common. They are frequently found, however, and we have the satisfaction of knowing that we can introduce many foreign elements into the animal economy without interfering to any great extent with the process of life; while in disease noxious elements, like lead, sometimes accumulate to an enormous quantity before producing death.

In crystals foreign particles may not materially interfere with the chemical affinity of the compound, and although it must provoke an earlier disintegration, at any rate it cannot be eliminated until re-crystallization takes place. There is no doubt that the same is nearly true of plants. However, here we sometimes come across excretions and secretions; and oil, sugar, or starch results from a transformation of protoplasm.

Excrementitious matter reacts to chemical action, and even purely inorganic deposits in an animal's tissues must grow as long as the same element is absorbed in excess. Gubler has formulated the law of localization in the following terms: "Substances foreign to an organism rejoin their like or their analogous elements among the normal principles of that organism."* This explains the origin of those concretions found in old cases of gout, and explains the growth of calculi.

The accumulation of waste through the day and comparatively increased elimination during the night appear to explain the alternation of sleep with the waking state; and elimination takes place in other unconscious states. A common phase of disease is a defect of elimination which shows itself sometimes as so-called uremic symptoms. The defects of katabolism, which result in uremic convulsions or coma, may be understood when the formation of urea is taken into consideration. "Among the basic bodies occurring in the hydrolytic cleavage products of proteids we find lysatin and arginin, and these bodies yield urea by the action of alkalies. The amido-acids are also considered as mother-substances of urea. Recent investigations by Salaskin with the three amido-acids, glycocoll, leucin, and aspartic acid, have unmistakably shown that the living dog-liver, supplied with arterial blood, has the property of transforming the above amido-acids into urea or a closely allied substance. Drechsel has shown that the amido-acids yield carbamic acids by oxidation in alkaline fluid outside of the organism, and he obtained urea from ammonium carbonate by passing an alternate electric current through its solution, namely by alternate oxidation and reduction $H_4 N O CO NH_2 + O = H_2 N O CO N H_2 + H_2O$ and $H_2 N O C O NH_2 + H_2 = H_2N CO NH_2 + H_2O$. The formation of urea from ammonia in the liver is a positively proved fact, and the urea formation from ammonium carbonate is to be considered as a synthesis with the elimination of water" (Hammarsten). The term uremia has been retained to express a form of autotoxicosis with well defined symptoms; but numerous experiments have shown that the retention of potassium salts in the blood accounts for uremic convulsions, while retention of a few toxic and narcotic substances causes uremic coma. Urea itself is non-toxic. But the non-elimination of urea is still the guide directing the physician to the non-elimination of the toxic agents just mentioned. In epilepsy a convulsion habit seems to have formed, and may be explained as follows: The continual clogging of cells which would soon end in death is relieved by an unconscious state of a certain duration, which we may call ¼ vitality, while the intervening conscious but gradually encumbered period may be expressed as ¾ vitality, the two stages being equivalent to a permanent half vital existence incompatible with any useful life.

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*E. Hæckel, J'l. de l' An. et de la Phys., 1875.

The diabetic coma is another alteration with a condition of accumulated products of katabolism.

Acetonemia, like uremia, is a misnomer, but the defects of katabolism, which end in diabetic coma, may be explained in the following manner: "From the evidence in our possession neither acetone, diacetic acid, nor B-oxybutiric acid can be looked to as possessing the toxicity needed to account for the coma," but "Sternberg has suggested that it is to the B-amido-butiric acid, a probable precursor of oxybutiric acid in the acetone series of products, that the diabetic coma is attributable" (Pavy). Grube has shown experimentally that this view is correct.

Instead of ammonia, carbon di-oxid, and water, B-oxybutiric acid and acetone form the chain of faulty disintegration.

The growth of neoplasms partakes more of the growth than of the disintegration of protoplasm. The tumors found in plants are generally produced by the irritation of fungi or insects. In most cases the neoplastic mass is to form a protective envelope for the progeny. All the various plant tissues are in turn made use of. Thus, in the case of the golden rod, the neoplasm consists mostly of the pith. In the nut-gall, it consists of bark, and in the ergot, all the tissues of the corn stalk are involved. In the willow, a bunch of abortive leaves is thus made to grow from a terminal bud. In some trees the sap-wood is the part invaded, and all sorts of warty excrescences are produced. The insertion of irritating secretions from the mother insect in most of these cases causes the neoplastic growth. This irritation has been successfully imitated by means of formic acid and other chemicals; and it is well to call attention to the fact that in the process of grafting called budding, a branch is made to grow at a point where none was originally intended.

The simple tumors in man, those consisting of one tissue only, are no doubt due to irritation of some sort in the part where the growth developes. This irritation may be due to bacteria or their toxins, to higher micro-organisms, or possibly to a toxin generated by the tisue itself. But a great many tumors are twin productions with the organism, the dermoids, the included fetuses, and tumors arising from embryonic rests; and in these all the various tissues are sometimes represented.

Tumors, having a life of their own, are antagonistic to the growth of the person on which they form and on which they live, though their nature seems but a slight perversion of the metamorphosis of cells in general, and this may account for their insignificant action in many cases. But anything which impairs the system at large is favorable to the new growth.

As to the influence of the mind in producing disease, it is not by any means to be rejected; for, of all the modes of force which bring on the differentiation of cells and tissues, there is none so comprehensive as that complex of modes of force called the mind. It is probable that each cell functions in unison with general consciousness; that this rhythm becomes manifest when unduly increased, and we call it pleasure; or whenever it is decreased, and then we call it pain. But we lack the knowledge and the facts necessary to prove that an organic disease may arise from a peculiar, long-continued idea, though we can prove that disease can be cured through suggestion, sometimes.

We find in disease the devolution of one process into another, and of one tissue into another, as when the bone becomes cartilaginous. Protoplasm, by losing its nitrogen, becomes sugar, or undergoes fatty degeneration. Albumin becomes converted into mucin by losing its oxygen or its sulphur, colloid being an intermediate product in the latter transformation.

THERAPEUTICS.—It is being more and more recognized that all therapeutics are to be based on scientific pathology. The physical agents,—light, heat, electricity, mineral water, and climate, restore to the failing organism those modes of force in which it had its origin, in which all its ancestors had their origin and their being. Hygienic laws attempt to keep each person in the most favorable of healthy surroundings, while ordinary medicinal treatment is directed to antagonize the forces of disease and assist the resisting powers of the patient. Thus we supply proximate principles when they are lacking, and we eliminate as much as possible the excrementitious matter which clogs the cells in the tissue.

BURSITIS SUBDELTOIDEA ACUTA*

By E. Klaveness, B. S., Ph. D., M. D.

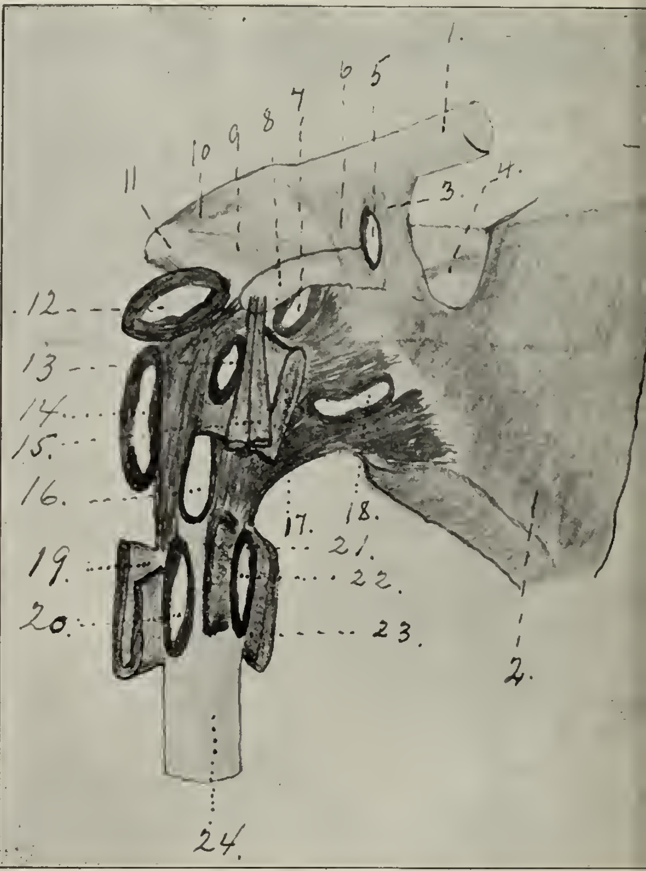
BROOKINGS, S. D.

In selecting a topic for a few remarks I felt rather doubtful. On one side I thought it more appropriate to give a lecture on more practical matters, more commonly met with in the life of a general practitioner, and therefore calling for more interest; on the other hand I had in mind an old saying, videlicet: "We know but very little, and teach less." While these words hold true, both generally and more so particularly in medicine, and while heaps of books are written every year about old facts and new achievements in our science, we are still facing many a problem, and have in our daily work, rather too often, opportunity to experience the truth of these few but plain words: "We know but very little."

Being under such an impression I recalled in my practice a case which I found noteworthy for its rarity, as well as for its fitness to demonstrate that not every trouble arising in the neighborhood of or around the shoulder-joint should be considered an easy diagnosis, to be made by first sight.

Knowledge of anatomy, of course, will save the careful examiner from mistakes here, as well as when other parts are concerned; but how many of us do really get ample time to keep up this valuable knowledge in our hustling life as all-around physicians? You will therefore kindly pardon me if I take advantage of this case, and briefly review the anatomy of this joint. I have attempted to demonstrate it also by a drawing, hereto attached.

And now, what about the case? Last fall I was called in consultation by a doctor in a neighboring town, to see an old farmer, who had been sick for some days with a painful arm and shoulder. In my journal I have marked the following: Mr. N. N.——, 67 years old; farmer; Norwegian; married; came to this country 30 years ago; was taken sick on the 16th of November, 1901; noticed difficulty, growing worse day by day, in moving his right arm, which also became swollen; on the 20th of November a doctor was summoned, and as the case after a few days of treatment showed no improvement, the doctor thought a dislocation possible, and decided to call me in. I saw the patient on the 25th, and found him suffering quite severe pain, especially when he tried to move his arm or when somebody accidentally touched it. There was a marked swelling of the arm and shoulder; the shoulder-joint show-



Bursæ Muscosæ Surrounding the Shoulder-Joint.

1. Clavicula. 2. Scapula. 3. Ligm. conoideum. 4. Ligm. transversum scapulæ (superius). 5. Bursa between the ligaments marked 3 and 6. 6. Ligm. trapezoideum. 7. Bursa subcoracoidea. 8. Processus coracoideus. 9. Ligm. coraco-acromiale. 10. Ligm. acromioclaviculare. 11. Acromion. 12. Bursa subacromialis. 13 and 14. Bursæ subdeltoideæ. 15. Caput breve bicipitis. 16. Bursa Canalis bicipitis. 17. Subscapularis. 18. Bursa subscapularis. 19. Pectoralis major. 20. Bursa subpectoralis. 21. Latissimus dorsi. 22. Bursa intertendinea. 23. Teres major. 24. Humerus.

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*Read before the Eastern Dakota Medical Society at Brookings, S. D.

ed a circumference of 49 cm., as compared with the left shoulder-joint, which was only 46.5 cm. No depression of the lateral parts covering the joint was visible, a symptom, which, you know, is very conspicuous in every case of dislocation of the humerus inwards. Under these circumstances the cartilaginous brim of the fovea glenoidalis may easily be felt. Supplementary to the fact that no depression whatsoever was visible it may be said that palpation in the axilla made it nearly certain that the caput humeri was in its right place. There was no swelling, neither was there tenderness of the axillary glands. Abduction and rotation were almost impossible because of pain, and the patient therefore very cautiously kept his arm in a half-way adducted position, held up and supported by the left hand. The skin over the joint and corresponding to the deltoid muscle was rather warm and inflamed. To satisfy myself and the attending physician, we put the patient to sleep, and while under the influence of the anesthetic it was demonstrated beyond any doubt that the arm was freely moveable in all directions.

I did not succeed in finding any excoriations on his right hand and fingers, neither did he himself know of any scratch or wound during the past two weeks. He stated upon direct examination that he had felt thirsty, that he had been drinking more than usual of water, and still had a feeling of a dry tongue. That there had been and still existed a slight fever was evident; moreover, his attending physician had communicated the fact in a letter to me that previous to my visit there had been some elevation of his temperature, and also for some time after my call the patient had a rise in temperature to such an extent that antipyretics were thought necessary, and were given. After this physical examination—in its results so far negative—I had only one more question to put before the old farmer, namely, as to what he had been doing previously to this sickness. His answer was that he had been husking corn, and after a few days of work had had to quit because of the sudden onset of this painful inflammation. It now appeared to me that we had to deal with a serofibrinous, acute bursitis, which, most likely, according to the swelling, the area of inflamed surface, the position of the arm, and the painfulness by abduction and rotation, could be referred to the two bursæ subdeltoideæ. It also seemed reasonable to suppose the cause for this bursitis to be in his occupation,—the husking of corn. Remembering that this special work is a continual adduction and abduction of the arm, and therefore a steady use of the deltoid muscle, which is relaxed and contracted, I felt rather inclined to conclude that a bursitis was the name of his trouble, because of an over-irritation by means of friction—to a certain extent resembling the more common bursitis prepatellaris in housemaids, who, when scrubbing and washing a floor, have to be on their knees, as is customary in Norway. In regard to the bursæ surrounding the shoulder-joint we have another analogy; laboring men, who have to carry a heavy load on their shoulders, as, for instance, hod-carriers or dock-laborers, sometimes get an inflammatory swelling of the bursa acromialis, a subcutaneous mucous bag; the same has been seen in the armies to occur amongst young soldiers because of exercise and shooting with rifles, recoiling too much.

The bursæ subdeltoideæ, however, are not frequently afflicted, and in fact in the small library that has been at my disposal, I have only succeeded in finding one case on record, which in its manifestation resembles mine*.

As for treatment, I suggested to my colleague to apply a cataplasm, preferably of lead-water with an addition of alcohol, and during the most acute and painful stage to give him morphine evenings to relieve him of his pain and make him sleep. I also mentioned the favorable results that might be expected of massage, when such a treatment could be administered with comfort.

I did not hear anything from the old gentleman before the latter part of April this year, when he personally appeared in my office, and expressed his satisfaction with his improvement. He was able to lift his arm and move it without any difficulty: there was no longer any swelling of the joint; and examination by means of palpation gave normal function, save some crepitation under the deltoid muscle.

From the pathological anatomy we know

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*Hueter-Lossen: Grundriss der Chirurgie, specieller Thiel, II Vol., page 31; published in 1892.

that these bursites, if the acute symptoms do not entirely subside, may run into a chronic stage with formation of fibrinous corpuscles (Hygroma, corpora oryzoidea). The treatment is then exclusively surgical, and should be an excision of the mucous bag.

Now, finally, a few words about the etiology. Experience has taught us that different diseases may settle down in these mucous bags. Besides the serofibrinous inflammation we may have a suppurative process with abscess formation, mostly to be met with in cases of local or general infection (pyemia); further, tuberculosis and syphilis, which are frequently found to be the primary cause when bursa trochanterica or prepatellaris are afflicted. But why these portions of the body are sometimes attacked and other times not, is difficult to understand. It matters very little whether the diseased organ seemingly be of little importance or not; when the tubercle-bacilli or the syphilitic germs have once located, if by mere accident, in one of these small mucous bags, the disease is there, and calls for all our attention; when a man in the prime of life and apparently in good health is laid up for a bursitis trochanterica tuberculosa, or when another man, ten or fifteen years from the time he contracted his syphilis, is awakened with a gummous prepatellar bursitis, we cannot help asking: Why is this so? and what made the specific disease in this special case select just that organ?

Gentlemen, to be able to answer these questions would mean to know the inmost biology of the cell as an individual. And the consequences of such a knowledge? Grand, immense!

I shall close by turning back to my opening remarks, and in emphasizing once more that, as long as we have so many problems pending, we should not be ashamed to frankly acknowledge: "We know but very little," and for that reason allow me to address each individual member of this society with the wish: May we teach one another somewhat more.

REFLEX COUGH DUE TO IRRITATION IN THE UPPER RESPIRATORY TRACT*

By William R. Murray, Ph. B., M. D.

MINNEAPOLIS

Cough in its different forms is a symptom with which physicians come into almost daily contact. It is universal in its prevalence, attacking all classes of society; and when chronic in character it becomes a source of alarm to the patient, and often taxes the diagnostic ability of the physician.

It is the purpose of this paper to consider only those forms of cough the origin of which is to be found in some lesion of the upper respiratory tract, which is capable of producing the cough by either direct or reflex action. While our attention will naturally be directed to the thorax as the most frequent seat of some pathological condition capable of causing cough, and while, in all cases, a thorough physical examination of this region is imperative, we must not overlook the fact that in a considerable proportion of cases the causative lesion is located in the nose, nasopharynx, or larynx, and that certain pathological conditions in these regions may be capable of producing the most distressing and paroxysmal forms of cough, and a differential diagnosis must be made between a cough caused by some diseased condition within the thorax and one whose seat of irritation lies in the upper air-passages.

Reflex cough is a term generally applied to those coughs which are caused by irritation of the pneumogastric nerve, sometimes termed the nerve of cough, or some of its branches. When we consider the fact that the pneumogastric, of all the nerves, has the most varied distribution, either through its own filaments or through those of other nerves with which it is connected, and the fact that a large portion of the mucous membrane of the pharynx is supplied by the pharyngeal branches of this nerve; that the mucous membrane of the under surface of the epiglottis, the glottis, and the greater part of the larynx are supplied by the superior laryngeal branch of the vagus; and that the mucous membrane of the trachea, the lower part of the pharynx and larynx, are supplied by the inferior laryngeal branch of the pneumogastric, it is rather a matter of surprise that lesions situated in these regions, do not more often give rise to a reflex cough.

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*Read at the Minneapolis Medical Club, January, 1903.

Cough that is reflex in character is generally paroxysmal and recurring with expectoration, slight or absent, and there may be absence of febrile symptoms.

COUGH DUE TO IRRITATION IN THE NASAL CAVITY

While reflex cough may be due to irritation in almost any part of the nose, the most frequent locations of the causative factors are the surface of the middle turbinals and the portion of the septum opposite, and the posterior ends of the inferior turbinals. Hence we sometimes find it accompanying an hypertrophy of the middle turbinal, which impinges upon the septum, and accompanying polypoid growths, which have their origin on the inner surface of the middle turbinal, this point being well illustrated in the following cases:

Case 1.—Miss P——, aged 23, on Nov. 28, 1901, applied for relief of a nasal obstruction. The patient had been subject to attacks of asthma for several years, but did not attribute these attacks to the nasal condition. Examination showed several large polypi springing from the mucous membrane of the middle turbinals and an hypertrophied inferior turbinal. Removal of the polypi and removal of the anterior end of the hypertrophied inferior turbinal, not only restored nasal breathing, but gave complete relief from the asthma.

Case 2.—Miss M——, aged 16, was referred to me May 5, 1902, for the removal of nasal polypi, which were thought to be responsible for attacks of asthma and coughing to which the patient was subject. Relief was obtained by removal of the polypi, and cauterization of the inferior turbinals.

Case 3.—R. G——, aged 18, consulted me July 19, 1902. The patient had been subject for several years to attacks of nasal obstruction, accompanying which there were a severe facial neuralgia and violent paroxysmal attacks of coughing. Examination showed the middle turbinals so hypertrophied and exerting such pressure against the septum that even after shrinking the tissues with adrenalin and cocaine it was with difficulty that I was able to pass the wire of a nasal snare between the turbinate and septum. Relief from the neuralgic pain and coughing was obtained by the removal of a portion of the middle turbinal bones.

Exostosis and enchondrosis of the septum are sometimes accompanied by cough, especially in patients of a neurotic temperament. A vasomotor rhinitis, which is in itself a neurosis, may be attended by a reflex cough.

NASOPHARYNX

In the nasopharynx the mucopurulent discharge from a post-nasal catarrh frequently gives rise to a cough in the effort to expel the accumulated mucus. This is especially noticeable on the patient's arising in the morning.

The most frequent cause of reflex cough arising from the nasopharynx, is the presence of adenoids, the cough in these cases being usually of a paroxysmal nature varying in severity from a slight irritative cough to one which may resemble a spasmodic croup. A low grade of chronic inflammation of the pharyngeal tonsil, which is frequently present in adults, may also be accompanied by a stubborn cough, either with or without expectoration.

PHARYNX

Pathological conditions of the pharynx are frequently responsible for chronic coughs, especially in cases of granular pharyngitis, the granules consisting of lymph follicles, which by direct pressure upon the delicate nerve endings may excite a reflex cough. Hypertrophy of the faucial tonsils may also give rise to a cough, especially when they are adherent to the pillars of the fauces or when the lower lobe of the tonsil is much hypertrophied.

An elongated uvula by its contact with the base of the tongue is almost certain to give rise to an irritating cough; and the presence of a cough due to this condition can be readily demonstrated by cocainizing the uvula and base of the tongue, and noting the immediate disappearance of all irritative symptoms.

In the glosso-epiglottic space we find one of the most frequent sources of cough originating outside of the thorax. Certainly, hypertrophy of the lingual tonsil is more frequently attended by cough than is a diseased condition of any other portion of the tonsillar chain, cough in this condition being due both to direct irritation of the glossopharyngeal and superior laryngeal branch of the pneumogastric, and also to friction caused by contact of the enlarged mass with the edge of the epiglottis.

The lingual tonsil, sometimes called the fourth tonsil, situated between the base of the tongue and the epiglottis, is abundantly supplied with blood and lymphatic vessels, and forms the anterior part of the tonsillar chain, which is composed of the pharyngeal, faucial, and lingual tonsils. It is composed of lymphoid tissue histologically similar to the pharyngeal and faucial tonsils and pathologically subject to the same diseased conditions, but it differs in this respect, that while the diseased condition of the latter is most frequent during early life, that of the lingual tonsil is most frequent during adult life. While the lingual tonsil is subject to both acute and chronic conditions, the latter, in the form of chronic hypertrophy, is by far the most common, and is exceedingly liable to be attended by cough, which is of an irritative character.

Case 1.—Mrs. M——, aged 54, consulted me March 24, 1900. The patient had been subject to nasal catarrh for a number of years, and at intervals, especially during the winter and spring months, was subject to an irritation in the throat that was accompanied by a stubborn cough. The patient stated that "it felt as though there was something growing in my throat"; and as there was a history of tubercular laryngitis in the family, the patient was much worried as to the cause of the cough. An examination of the upper air passages revealed an hypertrophy of the lingual tonsil. A few applications of the galvanocautery resulted in a disappearance of the cough and the feeling of irritation.

Case 2.—Mrs. E——, aged 36, consulted me May 29, 1901. She complained of a chronic cough, a feeling of irritation in the throat, and some difficulty in swallowing. Examination of the chest, negative, and an examination of the upper air-passages revealed an extremely hypertrophied lingual tonsil, the mass of hypertrophied tissue pressing against the epiglottis in the act of swallowing. The patient gave a history of having had syphilis, and the treatment consisted in the administration of potassium iodid, in addition to the local treatment. The result was a reduction of the hypertrophied gland and disappearance of the cough.

LARYNX

The diseases of the larynx which are most liable to be attended by a chronic cough, are hypertrophy and thickening of the mucous membrane and tumors. This is due to direct irritation of the superior laryngeal nerve, which supplies the mucous membrane of the greater part of the larynx.

DIAGNOSIS

The diagnosis in a case of a chronic cough is not always as accurately made as so common and alarming a symptom should demand; and in the absence of any physical sign which would indicate a thoracic source, how are we to locate the source of this trouble? This can only be done by a careful examination of the upper respiratory tract from the anterior nares to the trachea. A careful examination of the nose with good illumination, both before and after using adrenalin, will reveal any abnormality that may be present; and touching a hypersensitive area with the probe will often reveal the source of existing nasal reflexes.

An examination of the posterior nares demands the use of the rhinoscopic mirror. An examination of the nasopharynx can be made with the aid of the mirror, and, in the case of young children where this is not possible, a digital examination will reveal the presence or absence of a nasopharyngeal growth.

The pharynx can be readily examined by direct inspection, and the glosso-epiglottic space and larynx by means of the mirror; and in the presence of a cough and with absence of pulmonary involvement, in a general way the conditions which should direct our attention to the upper respiratory tract may be summarized as follows:

1. Cough, dry, hacking, spasmodic or recurring, and most marked in patients of a neurotic temperament, and in such cases most marked when under observation.
2. Absence of febrile symptoms.
3. Expectoration, slight or absent.
4. General health comparatively good.
5. Does not yield to internal medication.

TREATMENT

The results obtained by the proper treatment in cases of reflex cough are very satisfactory; and oftentimes a reflex cough which has persisted for months will disappear within a few days after removal of the source of irritation.

In the greater proportion of cases, local treatment alone will effect a cure, and this usually means some form of operative work. Occasionally in neurotic patients, complete relief does not as quickly follow the local treatment, and in these cases it will be found necessary to combine general and local treatment, and to keep the patient under observation a sufficient time to effect a cure.

THE HYGIENE AND TREATMENT OF THE VOICE*

By J. G. Parsons, M. D.

BROOKINGS, S. D.

The human voice with all its varied sounds heard in speech and song, is produced by the vibrations of the vocal cords set in motion by a current of expired air, and modified by the variations of tension and position of the cords, and by the resonance effected by the passage of the sound through the cavities of the pharynx, mouth, and nose.

The larynx is a cartilaginous box, consisting principally of the thyroid and cricoid cartilages, to which latter are attached the arytenoids. Between the arytenoids and the inner surface of the thyroid are attached the vocal cords. The tension of the cords is increased by the action of the cricothyroid and arytenoid muscles, which increase the distance between the thyroid and arytenoid attachments of the cords. Tension is diminished by the action of the thyro-arytenoids which pull the attachments of the cords toward each other. The crico-arytenoids and arytenoids regulate the opening between the cords, allowing a greater or lesser amount of air to pass, and produce vibrations. All the above-named are intrinsic muscles. Beside the intrinsic muscles the following extrinsic muscles affect the vibrations of the cords: The stylopharyngeus and sternohyoid by their combined action fix the larynx in position and hold it back against the vertebral column. Acting separately, they elevate or depress the larynx, as the case may be. The palatopharyngeus and sternohyoid by tilting the thyroid cartilage away from the cricoid increase the tension of the cords.

With the above-named structures to regulate the amount of expired air, and to increase or diminish the tension of the cords, sound is produced by the vibrating cords, set in motion by the air expelled from the lungs by the action of the respiratory muscles, principally the diaphragm.

When the waves of sound from a vibrating body meet another body capable of similar vibrations, the second is set in vibration, producing a tone in unison with the first. This phenomenon is known as resonance. The sounds produced by the vibrating vocal cords set up like vibrations in the air of the cavities of the pharynx, mouth, and nose, which cavities become resonators.

The pitch of a vibrating column of air depends on the size of the cavity in which it is contained. The size and form of the resonator cavities of the throat are capable of being adjusted by their musculature so as to make the air columns contained therein of such size that they may vibrate sympathetically with the sounds produced by the cords. This resonance amplifies the original tones, and adds to their quality and force. The muscles taking part in these modifications of voice are the constrictors of the pharynx, the palatal muscles, those of the tongue, lips, and cheeks, and even those of the alæ of the nose.

The pharyngeal muscles change the shape and size of the pharynx; the palatals narrow and shut off the openings into the mouth and nose; the tongue, lips, and cheeks modify the cavity of the mouth; and the dilator naris has some effect in increasing the size of the nasal cavities.

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*Read before the Eastern Dakota Medical Society at Brookings, S. D.

From the foregoing brief review of the mechanism of the voice it will be seen that the training of the human voice consists in the development and control of the muscles described, from the diaphragm to the dilator naris. This, of course, presupposes a normal condition of the muscles and their nerve supply, and of the mucous lining of the vocal apparatus.

It is next to impossible to discover a perfectly normal throat, but with a condition approximating the normal, there is opportunity for culture in speaking and singing. The general structure of the vocal instrument may be such that it is naturally adapted to good tone production; but if the mucous lining is impaired by chronic inflammation, or the resonator cavities are filled with growths or distorted by deflections, the instrument is then well nigh damaged beyond the possibility of being played upon.

It is a matter of common experience that the voice is very sensitive to the changes in the general physical condition, and its feebleness in exhaustion and unsteadiness in nervous excitement are frequently taken as indices of the severity of the trouble behind.

In considering the pathology of the voice we have to deal with the general conditions of nutrition, condition of blood, digestion, and condition of the respiratory and nervous systems. We have to deal mainly, however, with the pathological conditions of the upper respiratory tract. Here we find almost universally the collection of such conditions as hypertrophy of submucous tissues, chronic infections producing secretion of pus and mucus, crusts, ulcers, polypi, adenoids, etc., all of which are customarily classed together as "catarrh." The word may be a misnomer, but it is convenient.

The presence of irritating secretions, with the congestion of mucosa unfit the vocal cords for work. The congestion from adjacent parts of the throat, easily affects the delicate structure of the cords. Likewise a chronic congestion will interfere with the action of the muscles, and atrophy will practically destroy the action of the muscles in controlling the resonance. Resonance may be further impaired by the presence of growths or enlargements which diminish the size of the cavities, such as enlarged tonsils, adenoids, hypertrophied turbinates, polypi or other nasal growths, and deflections of the nasal septum.

The phenomenon of "taking cold" is an important pathological item. This is dependent on the diseased condition of the mucous membrane, together with defective elimination from the alimentary and urinary tracts, and the skin. The normal resistance may be lowered from systemic causes, and the myriads of pus cocci and other noxious germs present in the nasal secretions attack the mucous membranes, causing the well-known symptoms of congestion, swelling, profuse secretions, etc., which characterize a cold. Colds are the bugbear of vocalists and speakers, and are, as may be seen, dependent not so much on external conditions as internal conditions. The inhalation of dust from streets or from ploughed fields in farming districts acts directly as an irritant, and carries with it germs. Irritating vapors, and especially tobacco-smoke, are important causative factors.

Vocal hygiene is practically a matter of cleanliness, and good judgment in the matter of exercise of the muscles of the vocal organs. Of course, general hygienic measures are to be observed, as the general systemic condition has much influence on the vocal apparatus. Care as to diet, cleanliness of the skin and alimentary tract, ventilation, and reasonable exercise, especially of the respiratory muscles—all need attention. Proper methods of breathing must be followed. The pernicious habit of mouth-breathing must be overcome. With the vocal apparatus proper, cleanliness is the principal thing. Regarding the nose as a filter, it may be supposed, like any other filter, to accumulate filth. Under ideal conditions the nasal secretions are capable of rendering innocuous the germ-life deposited on the mucosa of the nose. However, the conditions under which average civilization breathes are not ideal, and we must assist nature at her work of cleaning up. It is every whit as rational to cleanse the nasal cavities and those with which they communicate as it is to cleanse the teeth. Let the nasal douche and tooth-brush go together.

When exposed to an unusual amount of dust it is well to increase the filtering function of the nose by light plugs of cotton worn in the nares, an expedient which the writer formerly adopted when riding over the prairies of Dakota during planting time.

Smoking is incompatible with healthy vocal organs.

Judgment must be exercised on the part of the vocal student and his instructor. Overwork of the muscles of the vocal apparatus is more serious than that of larger muscles. Fatigue should be carefully avoided, practice being immediately stopped when signs of fatigue appear. One practical point in the matter of overwork is that of reserving the full tones while learning a part, simply humming the notes. This plan, I believe, is adopted by many leading vocalists. The vocal instructor should constantly bear in mind that he has a vocal instrument under his care, as well as a student of the instrument. He should be fairly familiar with the structure and function of the vocal apparatus, and be able to use a tongue depressor, throat mirror, and nasal speculum. A student coming under his care should be examined as completely as possible, and on finding any catarrhal trouble, obstruction of the nasal passages, from enlargement or growths, enlarged tonsils, etc., or learning from the student that he has symptoms of catarrh (taking cold frequently, accumulation of mucus in throat, etc.,) he should at once refer him to the laryngologist for treatment.

The writer has frequently been called upon to treat vocal students who had been taking lessons for some time, and yet the instructor had not noticed that catarrh or obstruction nullified all the teaching given. The writer would make an especial plea to have the vocal instructors and choir directors and teachers of oratory informed of the importance of their relation to the laryngologist. It would be wise also to have vocal students come to the laryngologist at intervals for examination, much in the same manner as the dentist is consulted.

Treatment of vocal troubles consists in righting the wrongs of the mucosa from nose to larynx. General conditions should be attended to in treatment. Digestion should be remedied when necessary. Constipation is to be overcome, and auto-intoxication treated by intestinal antiseptics. Tonics and antilithic treatment may be necessary. With the vocal organs proper, all obstructions to sound should be removed. Nasal growths, enlarged turbinates and spurs should be removed. Deflection of the septum should be corrected. Adenoids and enlarged tonsils should be removed. The mucosa should be treated according to its needs by the use of alteratives, astringents, and antiseptics, with constant care as to cleanliness. This is best obtained by the use of the alkaline and antiseptic solution applied by means of the small glass douche. Follicles on the pharyngeal wall may be treated by applications of the galvanocautery, which is also useful in treating hypertrophied turbinates. Eustachian and middle-ear troubles need attention, as deafness interferes with tone-perception. Laryngeal congestions need rest, and soothing treatment by means of inhalations and sprays. Frequently absolute rest from all vocal work will be demanded. Massage of the extrinsic muscles is frequently beneficial, developing the muscles and improving local circulation and nutrition.

Much has been written on the subject of the so-called "methods" of training the voice, and even the masters disagree on this point. What may be adapted to one throat may not be for another constructed along different lines. The adjustment of a method to suit the individual case calls for rare judgment on the part of the instructor. Let us hope that it will not be long before the instructor will come to appreciate anatomical and pathological conditions which are met with so often, and see that they are duly considered before the particular pet "method" is applied.

PROF. LORENZ ON AMERICAN NURSES

Never, till I came to this country, have I known what a woman could be in the way of a nurse. In Austria they are women of any class, of any sort. They are women of little education. Here in America they are ladies—ladies! Never have I been so amazed. They are in aprons and caps, but they are educated, they are refined, they are charming. Never have I seen such a thing—never! You are so far ahead of us in this that I am lost in wonder.

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INSANITY AS A DEFENSE

The recent trial and conviction of Dr. Ames will prove the uncertainty of insanity as an excuse for criminal acts.

There are but few cases in which insanity will offer a substantial defense for crime. To connect insanity and crime, it must be proven that the mental disease has a direct bearing upon the acts of the individual, that he must be governed and controlled by his mental state and that he is irresponsible for his acts while suffering from disease. A man may suffer from mental and physical disease brought about by alcoholism and overstrain, and his entire mentality undergo retrogression, yet he may be fully conscious of his acts and purposes. On the other hand it is within the bounds of reason to conceive how an individual who for years has suffered from diseases and degenerations from excesses of all kinds, becomes changed in his mental and moral characteristics and is unable to withstand temptation and the influence of his greedy associates, and thus he may be excused in a measure for his mental and moral lapses.

The law, however, surrounds such an individual with limitations beyond which he goes at his peril, and thus the safety of the public is practically assured.

The defense offered by Dr. Ames' attorneys was without proper foundation and was hastily planned and badly executed, evidently the only possible theory that would excuse an ordinary jury who wished to excuse a criminal offense. A jury composed of fair-minded, thinking men would hesitate to acquit an offender unless the insanity had a direct influence upon the criminal acts, and was established beyond a reasonable doubt. Juries of to-day are not so ready to accept unproven statements and are apt to think that insanity for defense is a last resort or an attempt to befog the minds of the jury or give them a loophole through which the accused may escape.

Every one has more or less sympathy for Dr. Ames at the close of his long career. The good he did in the early days, and his honesty, unquestioned until the past few years, are quite enough to wish him a more honorable end. In the eyes of many he will always be looked upon as a genial, kind-hearted and generous man. His friends will think of his good qualities and regret his excesses.

THE AMERICAN MEDICAL ASSOCIATION

The address of President Frank Billings and the orations in medicine and surgery delivered before the American Medical Association at New Orleans are indicative of the higher standard aimed at by the leading members of the profession.

Dr. Billings dwells upon the past and present methods of medical education and calls attention to the increasing number of medical colleges. In 1877 there were sixty-five medical schools in the United States. In 1902 there were one hundred and fifty-six. In 1882 there were 14,934 matriculates, in 1902 there were 27,501, an increase of nearly 100 per cent. Ninety-eight of the medical schools of the country were private corporations. No wonder the United States is flooded with doctors. The remedy for this is the reduction in number of the medical schools; the maintenance of schools in the larger cities only where clinical bedside advantages are sufficient; the absolute control of the school and faculty by a state university; and, what is equally essential, the elevation of the standard of the entrance examination.

The advantages of a course in a university medical college offset the greed and rapidity of the lesser institutions by a more thorough course, scientific laboratory work and a faculty that devotes time to teaching without interruption by private practice. No private school can afford to employ men who give their entire time to fundamental branches. The men who compose a corporation school are interested for the advertising they receive and to satisfy their vanity.

The oration in surgery by Dr. Jonas of Omaha treated the borderland diseases, medical in their obscure beginning and surgical in their termination. The orator, like other surgeons, advocates the exploratory incision for diagnosis and treatment. This does not reach the question of improved diagnosis by both medical and surgical men. What we need is further light in diagnostic technic. The subject, great and perplexing, of toxemias was briefly mentioned only to be dropped by generalizations. The main part of Dr. Jonas' paper was the recognition and treatment of cancer, the theories of the origin of malignant diseases and the development of toxins. He believes our chief interests will always center in the cell and its governing influence, the birth and growth of the cell, its division beyond normal limits with its malignant tendencies, and its power to resist the invasion of toxins.

The oration in medicine by Dr. Anders of Philadelphia was particularly interesting, as it considered the "Social Conditions in America in their Relation to Medical Progress and Disease."

The orator says: "What is needed in medicine from the standpoint of sociology at the present day in America is the true 'scientific spirit clothed with human interest'."

"While science is telling us about the pathologic intricacies of disease processes, their bacteriological causation and cure with unparalled rapidity, important questions that affect especially the comfort and health of our town-bred populations are subordinated."

The questions which are of so much importance in every-day life and the social relations of the people are carefully considered by Dr. Anders.

Over-exertion, mental and physical intemperance and irregular habits of the body, are the engrossing factors which interfere with normal metabolism; the power of resistance is diminished and the individual succumbs to prevailing diseases.

The degenerations, myocardial, arterial and renal, are the direct result of improper modes of living.

The author's table of 275 cases demonstrates the truth of his observations and shows the frequency of these degenerative diseases.

The paper should be read by every thinking man who has the interest of his community at heart.

If all the papers presented approach in value those presented by the orators, the New Orleans meeting will stand out prominently in the history of the American Medical Association.

The next meeting, in 1904, will be held at Atlantic City.

Dr. John H. Musser, of Philadelphia, was elected President of the Association, and Dr. Chas. A. Powers, of Denver, chairman of the Surgical Section.

SCOPOLAMIN-MORPHIN NARCOSIS

An abstract in the Journal of the A. M. A. from Schneiderlin in the Muenchener Med. Wochenschrift, gives an interesting account of the author's experience in this direction.

The advantages of this method are a tranquil, drowsy state, which does away with psychic shock, the needlessness of an anesthetizer, and the freedom from danger if the application of the drugs is properly done. The patient is subjected to a test a day or two before the proposed operation to note the susceptibility of the individual. One day the patient is given .8 to 1 mg. scopolamin (hyoscin), and the following day 2 cg. of morphin. On the day of the operation the patient is given .8 to 1.25 mg. of the scopolamin and 2 to 3 cg. of morphin an hour and a half before commencing the operation. If, within fifteen minutes of the operation, the narcotism is not sufficiently profound, .2 to .4 mg. of scopolamin and .5 to 1 cg. of morphin is given. Complete anesthesia is claimed, and proven by inserting needles into the tongue or finger-tips. Enlarged glands from the axilla have been removed, abdominal hernia operated upon, and other operations are reported by Schneiderlin. The after-treatment of this form of narcosis demands attention. The tongue may fall back, and obstruct the breathing apparatus; and in mouth operations blood may obstruct the larynx. Every precaution must be taken to prevent suspension of the functions generally. Physicians who have used scopolamin hypodermically know how uncertain the effect may be; one individual will take 1-100 of a grain kindly and agreeably, and the next patient may be excited or delirious, or may exhibit respiratory difficulties. The addition of morphin is a safeguard, however, but the initial or test dose may cause much anxiety. This form of narcosis is not apt to find favor with the average surgeon unless he is of an investigative turn of mind, or has an assistant delegated for this preparatory work. The recovery from the narcosis again depends upon the individual. Occasionally one wakens unexpectedly when thought profoundly asleep. Such a case might waken in the midst of an operation. Again, the narcosis may be greatly prolonged by physical depression. A few operations on patients unsuited for chloroform or ether inhalations may be safely done under hyoscin and morphin. On the whole the method is experimental.

"ACUTE INFORMATION"

> Acute Information of the Ear.—We presume it was a piece of unconscious humor on the part of the printer's devil that led our esteemed contemporary, the *Northwestern Lancet,* to print the title of an admirable paper as Acute Information of the Ear. The author evidently wrote *Inflammation,* but there is something in the typographical error that appeals to our sense of the fitness of things. We wish sincerely that every original paper that appeared in this and other medical journals contained lots of acute information. It is the great desideratum of medical journalism. The *Northwestern Lancet* deserves thanks for even unintentionally suggesting such a striking theme. Acute information of the ear goes a long way, not only in otology but also in every other specialty, toward filling the void which editors and readers alike must often feel is an aching one.—*Philadelphia Medical Journal.*

It is well that most people can read between the lines, and that some people can read into the lines what an author thinks, but may not desire to say. Our "highly esteemed and excellent" contemporary, quoted above, belongs to the latter class, as the comment on our misfortune clearly shows.

If all this were not true, and if an editor were held responsible, by both reader and contributor, for what his printer often does, the editorial chair would be a good substitute for the modern chair, with wire attachments, used at Sing Sing and other up-to-date places for painless outgoings.

In the issue of the Lancet mentioned above, the printer played other pranks, and Dr. Morton's carefully prepared scientific paper was not alone the sufferer. The editor was made to write about Frunecek's, instead of Trunecek's, Serum, and other like errors occurred. This was due to the absence, on account ot sickness, of the person who stands over the printer to prevent just such errors; and we are sure our readers will give the Lancet credit for having very few such blunders. In fact, few medical journals that do not employ professional proof-readers can show a paper whose articles are so carefully prepared for the press as those of the Lancet; and the editor, who must trust these matters to his associates, is glad to acknowledge their faithfulness in these details.

CORRESPONDENCE

THE AMERICAN MEDICAL ASSOCIATION

New Orleans, May 8, 1903.

To the Editor of the Northwestern Lancet,

Dear Doctor:—The New Orleans meeting of the American Medical Association has been a great success, and we who have attended it have enjoyed it thoroughly, if not with our accustomed Northern energy; the weather forbade that, as the sudden jump from snows in Minnesota to magnolias in the South was decidedly enervating.

A small party of Minneapolitans thought we would escape the jam and crowding of the special, so left Minneapolis in time to catch the regular Sunday 10 a. m. Illinois Central for the South. In Chicago we were joined by Drs. Oschner and Mayo and ladies, and several other Chicago men, and also had the honor of the company of Dr. Lorenz who proved himself an interested listener if not a fluent conversationalist.

The sleepers were rather crowded, but we had a pleasant time and everything went smoothly until we met the St. Louis train of seven sleepers which combined with our already heavy train was too much for the limited traction ability of two small locomotives, and resulted in our getting into New Orleans two hours late.

Monday, when we woke we first realized that the climate had changed, and hastened to shed some of our winter clothing, and after a vain skirmish for breakfast, concluded to study the scenery and await a "diner" which our delay put far ahead.

The country in northern Mississippi is heavily wooded, and we now began to see many strange trees, among them the first live-oaks and magnolias.

Then another prominent and interesting feature of the fleeting landscape was the "nigger" and his "mewl," with the little whitewashed shanty and the pickaninnies.

Our "diner" finally was reached, and after a good breakfast at 10 a. m. we were ready for any further annoyance which might await us.

The hotels were crowded, but most of the party had engaged rooms and so had no trouble, but others found themselves in out of the way places at central prices.

In the afternoon I met a hospital friend, a U. S. Army surgeon, and together we visited old Fort Jackson, a most picturesque spot with fine magnolias and live-oaks.

Tuesday morning a small party of Minneapolitans made the trolley trip of the town, riding about thirty miles, and viewing most of the points of interest, such as the old French market, the old cathedral, and the various cemeteries, and the summer resort at Lake Pontchartrain. We were greatly entertained by the "lecturer," a boy of twelve who gave us a running description of our surroundings as we passed along. His remarks on the negro schools gave a fair index of the local status of the man of color. He said, "On the right you will see a nigger college where the colored people learn Greek and Latin and this is always crowded, but across the street is a technical school for colored men and they had to close that because a nigger hates to work." The boy was very bright and his explanations and comments helped to enliven our three-hour ride.

In the afternoon the work of the various sections began. I attended the surgical, presided over most ably by Dr. J. E. Moore of this city.

Several papers on the surgical treatment of Bright's disease were read and discussed, followed by papers on gall-bladder surgery.

In the evening a smoker was held for the surgical section, and the members chatted, smoked and drank beer, and enjoyed a most varied programme of amusement offered them. The general concensus of opinion seemed to be that this entertainment was far more enjoyable than the ordinary banquet, and the only criticism was that it was too popular and hence overcrowded. The striking feature of all the entertainments was the overwhelming crowds, and the sultry damp heat which melted down collars, and made one dislike the proximity of his fellowman.

Wednesday was the great day in the Surgical Section, as fifteen heavy papers with at least six five-minute discussions of each paper were rapidly gotten out of the way on time. The papers covered stomach and bowel surgery, osteomyelitis and other topics, and were listened to by an audience of about five hundred.

Dr. Moore showed his ability as a chairman by his promptness in starting work, in limiting discussion to the allowed five minutes, and in shutting out a refractory member who took advantage of the discussion to spring a pet fake of his own on the audience.

Our Minnesota men were much in evidence in the Surgical Section, as well as elsewhere, and the general atmosphere seemed to be a Western one, and it would seem as if the men from the great Eastern centers must wake up and attend these meetings and take part in the program and discussions if they are to retain their old position in the van of medical progress.

Wednesday night there were two most elaborate receptions at magnificent private houses, and in spite of the rain which poured at times the houses were packed.

The attendance seems to have far exceeded the expectations of the reception committee, and everything in the line of entertainment was overcrowded except the beautiful outdoor fête held in the City Park on Thursday evening.

To a Northerner New Orleans is a most remarkable and interesting city in many ways. The absence of sewers, with the open gutters and drainage canals, offends the eye and nose, but is offset by the beauty of the shrubbery and trees, and the fragrance of the roses and cape jasmine. The architecture is distinctly of a different type from that of the North, but is charming with its two-storied piazza and fenced yards. The civilization has its peculiarities, as shown by the funeral crepe on the front gate, and the fact that many of the French citizens are said never to have passed across Canal Street, having always lived in the French quarter on the north side of this dividing line.

New Orleans bears the reputation of being the widest open town in the world, and some of the sights in the French quarter given up to the demi-mondaine, would seem to bear out this reputation. In no other town in the United States, it is said, can be found what most of the medical visitors viewed with professional interest, viz, blocks of houses built expressly for the use of single prostitutes, houses consisting of a parlor opening upon the street with a bedroom at the rear, all on the level of the street. Women of all races and colors sit in these doorways and solicit passersby from the sidewalks. The social evil is said to be under strict police surveillance, but the stranger sees nothing of this, and is only struck by the brazenness and publicity of it all.

The citizens say that there is no grafting done by the police here, but the Minneapolitan looks askance and thinks the Southern police must be as slow as the Southern railroads.

The negro with his various shades may be said to lend a touch of color to the scene. He has a separate part of the street and other cars, and separate schools, is considered lazy and shiftless, yet does most of the hard work. He is the butt of many jokes, yet is a humorist himself, and contributes much to the interest and picturesqueness of the Southern life.

The levees swarm with negro workmen, fishermen and loafers, and are points of interest to the Northerner. While driving about them with a friend, we became interested in a man trying to net something under the dock, and got out to find that he was only catching shrimps for bait. We were rewarded, however, for our expenditure of energy, by finding an old, grey-haired negro fishing on the dock and seeing him bait his hook in a manner which called to mind the old story of the boy who carried his "wums for bait" in his mouth. The old fellow calmly took off his hat which contained a dozen live, crawling shrimps, and after baiting his hook, put the hat and contents back on his head, replying to our expressions of astonishment, "Why, they can't get away, boss."

All in all the week spent at the American Medical is one to be long remembered as a week of new and strange sights, crowds of distinguished men, fine papers and discussions; and everyone I talked with was enthusiastic and determined to attend the meeting next year at Atlantic City, where the one fault of the New Orleans meeting, the lack of good hotel capacity, will be eliminated.

Yours very truly,

J. Clark Stewart.

REPORTS OF SOCIETIES

THE MINNEAPOLIS PATHOLOGICAL SOCIETY

Arthur T. Mann, M. D., Secretary

The March meeting was held Monday evening, the 16th, at the Laboratory of Medical Sciences, with Dr. L. B. Wilson in the chair.

Dr. F. F. Wesbrook presented the specimens of the evening, all bearing on the subject of phagocytosis.

1. Pneumococci shown within the cells, from a case of meningitis.
2. Gonococci within phagocytes.
3. Diplococci within polymorphonuclear leucocytes; a culture from a scarlatinal sore throat, preceding the rash.
4. Urethral pus from a case resembling gonorrhea, but with a short non-Gram-staining bacillus, very abundant and no cocci present.
5. Tubercle-bacilli in a section of a tubercle in tuberculous tissue.
6. Phagocytic endothelial cells in the lung.
7. Leprosy of the skin with many bacilli.
8. Peritoneal fluid of a guinea-pig injected introperitoneally with pure culture of a colon-typhoidlike bacillus, which showed coarsely and finely granular oxyphile cells; the latter phagocytic.
9. Hyaline cells antedating the inclusion of bacillus filamentosus, four hours after intraperitoneal, inoculation of a frog.
10. Cells in an old fibroid lung in a case of heart disease.
11. Fifth day of a carmine abscess in the belly wall with leucocytes containing masses of carmine previously injected under the skin.

12. Hemorrhagic infarct of the lung.

On the subject of phagocytosis Dr. Wesbrook spoke in part as follows:

In the case both of ameboid unicellular organisms and the wandering cells of the higher animals the contact is brought about by the attraction of the cell to the particles. The area of attraction is probably limited. It may be that a certain amount of the particles are dissolved in the fluids, and stimulate the cells to approach them or to recede from them. Lymph and blood may carry wandering cells to the vicinity of foreign particles, although their arrest and emigration through the walls of the vessels is an active process in response to stimulus. Fixed cells, like the endothelium of the lymph and blood vessels, serous cavities, and the spleen pulp, may throw out pseudopodia, and entangle and ingest bacteria, which are brought to them by the circulation. They may even bud off the large mononuclear leucocytes, which are so markedly ameboid and phagocytic, but proof that these after engulfing bacteria or other particles may again become fixed is wanting. It is a common thing for a wandering phagocytic cell to be engulfed later with its contents by fixed cells, most commonly endothelium.

A simple way to observe phagocytosis is to take a drop of fluid from the peritoneum of a frog with a capillary pipette, place it in the center of a clean coverslip, and lightly inoculate it with a fresh culture of bacillus anthracis or other non-motile organism. The drop is inverted over a vase-lined hollow-ground slide, or, better still, over a ring cut from thick filter paper kept moist with water. It will be seen that the coarsely granular oxyphile (eosinophile) and hyaline (large mononuclear) leucocytes are actively attracted to the chains of bacilli, the oxyphiles being generally the first to attach themselves. Their granules exhibit streaming movements before and usually disappear immediately after contact. The lymphocytes seem to take no active part although they become included in the plasmodium formed by the other two varieties of leucocytes and the chains of bacilli which become bent into sharp angles and finally tightly compressed. The individual cells of the plasmodium soon lose their outline, and in unstained specimens cannot be differentiated. The plasmodium later breaks up, and the component cells again become free (in from 5 to 9 hours). The coarsely granular oxyphile cells which have lost their granules, and whose protoplasm has become amphophilic upon contact with the bacilli, sometimes regain their granules with their oxyphilic reaction. In the hyaline (large mononuclear) cells, however, at this stage frequently one or more vacuoles can be seen which contain chains of bacilli doubled upon themselves, so that from two to five or more bacilli are included. The bacteria are undergoing degeneration. Kanthack and Hardy, after a very extended series of observations, concluded that with fully virulent bacilli the coarsely granular oxyphile cell is called into action first, and through contact with the bacilli by a process of "extra-cellular" digestion, or neutralization, works them harm after which phagocytosis on the part of the hyaline cells becomes possible. They are convinced that phagocytosis as the initial movement is only possible where non-virulent bacteria or other relatively inert particles are employed.

The vacuoles of phagocytic cells probably all contain a ferment. The ferment fluid has been shown to be acid, although secreted by an alkaline protoplasm. In these vacuoles whatever is capable of digestion goes into solution, and serves as food for the cell, whilst the insoluble remnants are extruded. It is impossible to hazard any opinion concerning the exact nature of the mechanism of the cell activity when considering the destruction by phagocytosis of bacteria against which animals have been rendered immune. Possibly, by virtue of one set of powers a phagocyte may kill bacteria, and by virtue of another set may digest them.

In considering what cells are phagocytic red-blood cells may be excluded. Small lymphocytes are not phagocytic. Coarsily granular oxyphile cells (eosinophile), Dr. Wesbrook said he had always looked upon as never phagocytic until two years ago when he observed one undoubted case of inclusion and partial digestion of bacillus filamentosus by one of these cells in an exudate in a guinea-pig which had been injected with a culture of the bacilli. Phagocytosis on the part of these cells, however, must be extremely rare. They seem to act rather by a process of extracellular paralysis or digestion of bacteria. The polymorphonuclear leucocytes (finely granular oxyphile) are the chief phagocytes of the blood.

They emigrate rapidly and quickly appear in large numbers. The main increase comes from stimulated manufacture in the marrow of long bones.

The hyaline (large mononuclear) cells are phagocytic. They are seemingly derived from the endothelium of vessels and from the spleen and lymphatic glands. They carry on most of the phagocytic work done in tissues where lymph and blood streams do not bring the polynuclear leucocytes near the field of action. They may act immediately on feebly virulent bacteria and non-irritant particles, but with virulent organisms there must first probably be a previous degeneration through the action of other cells. In typhoid infection, the hyaline cells are especially active. In tuberculosis and leprosy endothetial cells are particularly active. In purulent infections the polymorphonuclear leucocyte is the chief phagocyte. Hyaline cells are the connecting link between endothelium and leucocytes.

Other varieties of leucocytes have not been recognized as phagocytic.

As to the fixed cells: endothelial cells are markedly phagocytic. Fixed connective-tissue cells sometimes contain pigment particles. They must have taken them up after they were brought in by wandering cells. Liver cells may act upon bacteria after these have been passed to them by the endothelial cells of the portal capillaries. They may kill them or attenuate them, and then extrude them into the bile ducts. The tubercle-bacilli in milk from udders which are not infected, may have been passed on in the same way by the epithelium of the milk-glands. Excretion of bacteria and of solid particles by the kidneys and infection by way of the tonsils open up similar questions.

In many cases of infection phagocytes apparently may carry bacteria a considerable distance and then disintegrate, set the bacteria free, and thus set up a new focus of infection.

As to the factors which influence phagocytosis, anything which checks chemiotaxis interferes with it. Highly virulent bacteria attract wandering cells less than more attenuated microbes of the same kind. For instance, if attenuated anthrax bacilli be inoculated into one ear, and a virulent anthrax into the other ear of the same rabbit, the attenuated bacilli induce tremendous accumulation of leucocytes, while in the other ear fluid is poured out into the tissues with little or no attraction of leucocytes. Immunization to anthrax renders the animal capable of responding to a dose of virulent bacilli by an accumulation of leucocytes instead of simply the huge outpouring of fluid. The presence of moderate amounts of soluble bacterial products tends to attract the leucocytes, while large quantities of the same materials tend to prevent it. Hence phagocytosis is apt to occur when the invading bacteria are not too virulent, when the resistance of the host is great, and when the irritants are present in greater abundance at points outside the vessels than in the circulating blood.

As to immunity: Ehrlich said that it depends upon the possession or the artificial introduction of a special substance ("immune body") which firmly unites with the bacteria, and thus enables another substance, "the complement," which is present normally in the animal, to kill the bacteria. Metchnikoff believes that both are liberated from leucocytes by "phagolysis," and that in the body the final action of the complement on the bacteria takes place only within the cell during phagocytosis even should the immune body have been free in the fluids. Bullock's work on hemolysis tends to show that in the rabbit an increase of finely granular oxypilic cells in the blood accompanies the formation of the "complement," and that activity of mononuclear leucocytes is related to the formation of the "immune body," both of which are necessary to immunity.

The digestion of bacteria by phagocytes, Metchnikoff apparently considers to be due to a ferment, which seems the same sort of thing as Ehrlich's complement. Phagocytes are undoubtedly important in immunity, but not all the phenomena can be expressed in terms of phagocytosis.

NO DOUBTS ABOUT IT.

"How do you know it is rheumatism?" asked his friend. "You haven't seen a doctor."

"I know what it is all right," replied the victim. "Rheumatism is one of those things that don't need an introduction."

BOOK NOTICES

A Text-Book of Pathology and Pathological Anatomy. By Dr. Hans Schmaus, Extraordinary Professor and First Assistant in the Pathological Institute, Munich. Translated from the Sixth German Edition by A. E. Thayer, M. D., Instructor in Pathology in the Cornell University Medical College, N. Y. Edited with additions by James Ewing, M. D., Professor in the Cornell University Medical College. Illustrated with 351 Engravings, including 35 colored Insert Plates. Philadelphia and New York: Lea Bros. & Co.

The medical profession of this country is deeply indebted to the editor and translator for the production in English of a real text-book of pathology. This work of Prof. Schmaus is in every sense a text-book, and deals less in argument, theory, and expressions of personal opinion than any existing book of its kind.

It is simple and straightforward in its statements, and accurate and concise in its descriptions. The reading of the introduction alone suffices to convince one of the all-sided and masterly view which the author takes of disease and its processes, and without further questioning the reader is willing to heed his vade mecum.

Chapter I deals with disorders of circulation. In the description of inflammation, which is taken up in this chapter, the role played by the varieties of leucocytes, so minutely described by some pathologists, is entirely omitted, and only the well-known phenomena are fully dealt with. The cellular changes seen in inflammation are not as minutely described as one would wish.

Infections, granulomata, and tumors are classified by the author under progressive processes.

Tuberculosis heads the list of the granulomata. In the treatment of its pathology considerable space is devoted to a consideration of the avenues by which the bacillus gains entrance to the organism, and to the subject of intrauterine infection and the conditions affecting the growth of the bacillus in the body.

The etiology of tumors, the author considers a dark chapter in pathology. Chronic irritation may play an exciting part in the production of some kinds of tumors. Cohnheim's theory of fetal inclusion probably accounts for the congenital tumors. Thiersch may be right when he explains the origin of carcinomata upon the grounds of a predominence of the epithelial over the connective tissue cells in the later life of the organism.

Then follows a concise description of the varieties of tumors with many admirable plates and figures. Plate X, a glioma, and Fig. 81, a sqamous-celled carcinoma, are deserving of special mention. Figs. 76 and 77 are, however, not clear.

In the chapter on Parasites the writer describes natural and acquired immunity, and the process of antitoxine production, contrasting Behring's and Ronx's theories of immunity with that of Buchner.

Part I closes with a short chapter upon general bodily disorders from disturbed organic functions.

A chapter of six pages upon the blood opens Part II, which deals with special pathology. Fig. 164, representing normal blood is misleading on account of the large size in which the cellular elements are represented. We note also the absence of any representation of the blood of pernicious anemia, and wonder why it should be omitted from the book, when a plate picturing normal blood is inserted.

Too much cannot be said in praise of that part of the work which deals with the pathology of the special organs. The text is direct in style, simple in expression, and to the point. The plates and figures are hardlv to be excelled, and represent the lesions in faithful detail and with accuracy. These add much to the value of the book as a text-book for students.

The subject-matter deals scarcely at all with the more recent pathological studies of typhoid infections outside the intestinal tract, nor is any mention made of Opie's epoch-making pathological studies of pancreatic lesions associated with diabetes mellitus. However, writers of text-books on pathology when dealing with recent discoveries in this field do well to bear in mind the old rule laid down in the rhetorics concerning the use of new words: "Be not the first by which the new is tried nor yet the last to lay the old aside."

Geo. Douglas Head.

NEWS ITEMS

Dr. W. S. Cuff, of Hancock, has located in St. Paul.

Dr. W. F. McCarthy denies the report that he is to leave Jordan.

Dr. Wm. Reid, who formerly practiced at Verndale, has located at Little Falls.

A physician, an osteopath, and a business man are to start a sanitarium at Fairmont.

Dr. G. A. Stevens, of Albert Lea, has gone to Europe for an extended course of study.

Dr. G. P. Bearman, of Chaffee, N. D., has taken the practice of Dr. Cuff at Hancock, Minn.

Dr. Oscar Bertelson, who recently moved to Crookston, has formed a partnership with Dr. Holte.

Prof. Johannes Mikulicz, of Bresleau, Germany, has been visiting St. Mary's Hospital of Rochester.

Dr. B. J. Merrill, of Stillwater, has been appointed by the governor a member of the State Board of Health.

Dr. Adams Lyon, of Braham, has moved from Braham to Pine City. Dr. Lyon is a graduate of Hamline, class of '98.

The Home Hospital Association of Duluth will build a hospital this year upon a fine lot just purchased for $6,500.

Dr. F. O. Gronvold has decided not to leave Gary for Cannon Falls. His friends at Gary persuaded him to change his mind.

Dr. D. H. Bell, of Kansas City, Mo., has located in Kenmare, N. D., and gone into partnership with Drs. Wendell and McQueen.

Dr. W. S. Wood has been elected mayor of Blooming Prairie, and the local papers say he will make the best official the village ever had.

Dr. H. L. Lamb, who graduated from the State University last summer, was elected health officer of Sauk Center last month by a unanimous vote.

Dr. H. S. Vernon, of Lewiston, has moved to Rushford, and takes the practice of Dr. A. O. Heiberg who quits practice because of poor health.

Dr. N. L. Linneman, who graduated from the State University last summer, has begun practice in Duluth, having offices in the Lyceum building.

Dr. James C. Rhodes, a pioneer and prominent citizen of Stillwater, died the first of the month. Dr. Rhodes was mayor of the city and held other offices.

Dr. Louis W. Armstrong, of Breckenridge, who passed the recent state medical examination, has been admitted to practice medicine in five states and the District of Columbia.

Dr. A. F. Longeway, secretary of the Montana State Board of Health, has been making further studies of the "spotted fever" that prevails in the Bitter Root Mountains; and he has asked the government for a specialist to assist in the work. The Lancet had an article on the subject a year or so ago.

The annual meeting of the Stearns and Benton County Medical Society was held at St. Cloud last month. The following officers were elected for the ensuing year: President, Dr. P. A. Hilbert, Melrose; vice-president, Dr. W. L. Beebe, St. Cloud; secretary, Dr. J. C. Boehm, St. Cloud; treasurer, Dr. G. A. Chilgren, Sauk Rapids.

NOTICE

The State Board of Medical Examiners will send their recently issued Official Register of Physicians to anyone remitting the cost of postage (five cents) upon the same.

PRACTICE FOR SALE.

A practice in a good village within 60 miles of the Twin Cities, paying about $5,000, will be sold for a moderate price, and the physician offering the same will remain with the purchaser until he is thoroughly introduced. Address Dr. A., care of the Lancet, Lumber Exchange, Minneapolis.

INTRAVENOUS INJECTION OF FORMALDEHYDE

In N. Y. Med. Jour. Dr. Wm. L. Bauer reviews at some length the subject of intravascular antisepsis in general. From the available facts thus far obtainable he concludes that it seems improbable that formaldehyde used intravenously has any specific value in septicæmia. The instances reported in which it has done good were probably those in which the agent acted as a diluent, and not as a germicide. Therefore, the normal saline solution (or, better, the truly germicidal blood injection) would seem to answer equally well, and with less probability of injuring the delicate structures of the blood.

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SOME REMOTE EFFECTS OF EYE-STRAIN*

By George H. Thomas, A. M., M. D.

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MINNEAPOLIS

The remarks contained in this paper, Mr. President and members of the Hennepin County Medical Society, are given under the general title of "Some Remote Effects of Eye-strain." By remote effects are not meant those of a rare or more or less vague and doubtful character, but those which are found situated distant from, and which are not commonly looked upon as in any way dependent upon, the eye. The object of this paper is to recall to your minds and to emphasize some facts which are being brought to the attention of the oculist every day from his own experience and from that of others reported in medical literature. Not alone the oculist, but the neurologist, the stomach specialist, and the general practitioner have contributed cases in the journals which illustrate the remote effects of eye-strain; and, no doubt, many more might be added were the trouble taken to report them. This subject is not one of theoretical speculation, but one of accumulated experience of many men during the last twenty-five or thirty years.

As far as I know, it was not till Dr. S. Weir-Mitchell pointed out, in 1874, to the medical profession the fact that refractive errors were frequently the cause of headaches as well as other neuroses, that this subject was given any attention. That chronic headaches could be the result of eye-strain, though well known to the oculist, was little heeded; and it was not till the weight of evidence became incontestible, and till the laity itself began to learn the fact, that we laid aside prejudice, the worst condition of mind next to ignorance that can impede scientific observation and advancement. Though most of us are now willing to accept headaches as a common effect of eye-strain, how few but specialists know that many forms of blepharitis, conjunctivitis, lid and facial spasms, as well as many of the skin wrinkles found about the eyes, are often due to nothing else than eye-strain! Those troubles, however, are not remote from the eye, and yet we will continue to treat them with eye washes for the congestion, nerve sedatives for the spasms, and massage for the wrinkles for a long time before the possible fundamental cause of eye-strain is given due consideration. The dependence of these affections upon eye-strain, however, can be easily enough conceded, and is assumed in this paper to be sufficiently appreciated. It is upon more remote, less plainly evident and demonstrable, and perhaps less frequent effects of eye-strain that I wish to dwell.

Dr. Geo. T. Stevens, of New York City, was probably the first to point out with any degree of positiveness the effect of eye-strain upon the functions of the nervous system and also upon different organs of the body. Since his paper read in 1881, before the Royal Academy of Medicine of Belgium, oculists everywhere and particularly in this country have added a great deal in support of his views. The result is that a very large variety of ailments have been described as having been relieved by eye treatment. Among these are cases of neurasthenia, hysteria, melancholia, hypochondriasis, nervous dyspepsia, vertigo, insomnia, migraine, epilepsy, chorea, hay-fever, wry neck, car sickness, and sea sickness; with less definite symptoms of anorexia, faintness, nervous irritability, weariness, mental confusion, stammering, and even chronic constipation, nocturnal enuresis, and dysmenorrhea. This list is somewhat bewildering; and the first impression of it is no doubt an incredulous one, to say the least. We are apt to feel that the eye specialist is influenced by a prejudice and carried away by an enthusiasm that few more broad minded could share. Otherwise we should be tempted to look upon the eye, as some one has facetiously remarked, as the "divinity to which all the other organs should kneel." We should all feel it was necessary to become oculists at once in order to understand this eye treatment, this great panacea, which makes all other therapeutic methods of secondary value. That the claims of the oculist are not absurd, however, can be easily made clear by a little investigation below the surface.

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*Read before the Hennepin County Medical Society, May 4, 1903.

We are all prone to generalize, and to draw conclusions from limited experience. The history of medicine in the past and the practice of it to-day exemplifies this very forcibly. The wise man, however, forms his judgments carefully, and even the most skeptical will admit an element of truth in every doctrine. In this case even the dependence of a chronic constipation or a dysmenorrhea upon eye-strain, though undoubtedly a very remote and a very very rare one, can be made with a little reflection to appear reasonable enough.

Dr. A. L. Ranney, of New York City, who is one of the pioneer investigators in this subject, and who says of himself that he owes to the relief of his eye-strain his restoration to health and his ability to continue his profession, after well tried experience states: "There is hardly a nervous disease of the functional type that cannot be induced by eye-strain. Patients who suffer from headaches, neuralgia, chorea, epilepsy, nervous prostration, and even insanity from these reflex causes, are unquestionably encountered. This is no idle dream, nor is the statement made from rash enthusiasm." In an editorial in the Philadelphia Medical Journal for Feb. 3, 1900, there is the following statement: "There is no truth of medical science better proved or more persistently ignored in daily practice than the intimate association of eye-strain and malassimilation." And Dr. Geo. M. Gould, in the Annals of Ophthalmology for October, 1899, says: "I do not believe we exaggerate when we say that in America itself, a million patients are being treated for stomachal, nutritional, nervous, and other reflex disturbances by drugs and what not when their disease is due to eye-strain."

Every oculist of experience is able to offer from his case-books many examples to illustrate the effect of eye-strain upon the general health. I might quote from dozens of medical journal articles reports of cases of neurasthenia, nervous dyspepsia, insomnia, vertigo, migraine, and so-called idiopathic epilepsy, (notably *petit mal*) which have been apparently entirely cured by eye treatment. Some six years ago, while in general practice the truth of the statements given in this paper were made convincingly and startlingly apparent to me in several instances. Since that time, after three years of hospital experience and an equal number of years in special practice, during which time many hundred eye cases have passed under my direct observation and study, I have come to a settled conviction that one of the most important organs in the body capable of producing a great variety and degree of neurotic symptoms, is a pair of eyes affected with some refractive error or with some want of balance of their external muscles. Among these neuroses, of which I think I have seen nearly every type, I would place in order of frequency neurasthenia (which might include insomnia, irritability, weariness, and mental confusion), nervous dyspepsia, vertigo (including some forms of car sickness and sea sickness), and finally migraine. I have had no experience with eye treatment for epilepsy or chorea. The name epilepsy covers much and so does chorea. The ordinary Sydenham's chorea is probably a bacterial disease; is self-limited; and it does not seem rational to speak of it as resulting from eye-strain. But, certainly, patients with epileptoid attacks, particularly *petit mal,* and with choreiform spasms, are relieved by eye treatment.

If it is true, as is commonly supposed, that neurasthenia is a direct result of overwork and prolonged nerve strain, it is reasonable to expect that an overtaxed eye would produce general nervous fatigue, especially when we consider that five of the twelve cranial nerves supply the eye, besides many branches of the sympathetic. In these days, particularly in America, from the kindergarten to later business and social life, there is no other muscle in the body which is put to such constant and arduous exercise as the ciliary. Even when the refractive condition of the eye is normal, as it rarely is, such excessive accommodative use is fatiguing. How much more so is it when the eye has to overcome a hypermetropia or an astigmatism! When such refractive conditions exist the ciliary muscle gets no rest, either in distant or near vision, and only obtains a relaxation from its labors when sound sleep is attained. Add to this a want of balance of the external ocular muscles, with the constant effort made necessary thereby to maintain single vision, and you have a combination that will in time wear out the strongest constitution. Any one of the above mentioned symptoms may appear, sometimes manifested in one part of the body and sometimes in another, and in different ways in each according as other causes exist which localize and modify the general disturbance. According as other causes predispose or augment you will have in one patient vertigo, in another epilepsy; in one occasional anorexia and car sickness, and in another chronic dyspepsia; in one patient mental irritability, confusion, and insomnia; and in another hypochondriasis and melancholia.

If you would appreciate what such eye-strain really can do, I would ask you to submit yourselves to the simple experiment of wearing lenses which would produce an artificial astigmatism or hypermetropia; or which would cause an unequal effort of the ocular muscles to prevent double vision. The morbid effect might or might not be immediate, depending on your endurance, but sooner or later it would come and would manifest itself in one of the ways indicated above. Dr. G. S. Hull, of Pasadena, Cal., in The Ophthalmic Record for 1902, says: "Among the many invalids who seek our southern California climate, there are a few nervous wrecks who find but little help until, by some stroke of good fortune, they fall into the hands of an oculist; and when he has acted his part, the climate has an easy time in finishing the cure, for which it generally gets the biggest share of the credit." In speaking further of consumptives, he says: "Think of a victim of tuberculosis coaxing a weak stomach with most carefully selected foods, and at the same time carrying an uncorrected compound hypermetropic astigmatism with gastric reflexes!" I know of several stomach specialists who, as a result of their experience, never treat a case of nervous dyspepsia without first knowing from an oculist (not an optician, by the way) the condition of the patient's eyes. In a paper entitled "Eye-strain as a Cause of Gastro-intestinal Neuroses, Dr. Smithwick, a stomach specialist of Boston, reports several cases of chronic dyspepsia cured by glasses after everything else had failed. Dr. Coggeshall, another internalist, in his remarks on this paper, said he could recall nine cases where he had a "complete cure of indigestion by eye treatment after every attempt at dieting and the administration of all sorts of drugs had failed."

Take for example the subject of sick headache or migraine, a disease which has always been regarded to a large extent as inherited and incurable. It is in fact described on this account and because of its periodicity as a sensory epilepsy. "Anyone who is affected," says Ranney, "with attacks of migraine, knows that they often occur without explainable cause; that they are cured by eating, drinking, and smoking sometimes, and made worse at other times by similar indulgences and excesses; that every known remedy is apt, sooner or later, to prove inoperative, and that a sure specific for them is unknown among the drugs of our pharmacopea." Some times the hopeful prognosis is given that the disease will probably disappear when the climacteric is passed,—experience has shown that this often happens,—but the climacteric looked forward to is oftentimes only the late presbyopic stage, when the labor of the ciliary muscle is to a large degree at an end. Every oculist has had cases of migraine which have certainly been permanently relieved and sometimes completely cured by eye treatment. I could quote from my records typical and severe cases where the attacks have not only been greatly modified in severity and frequency of occurrence, but a few where they have seemed to have entirely disappeared. The earlier in life such cases receive appropriate treatment, the greater the probability of permanent relief of migraine, for the longer the disease has existed the more a habit is established which is hard to break up even though the original cause is removed. In spite of inheritance and of habit I think that any patient who is a sufferer from sick headaches and who has eye-strain will derive decided benefit from eye treatment.

Knowing, as we must, that most of the diseases and symptoms mentioned are found in patients whose nerve force is below the average; and knowing, furthermore, that eye-strain will produce even in otherwise healthy people pronounced nervous disturbance, it is but reasonable to expect that anyone of the varied symptoms named above might result from the eye. When we add to this *a priori* conclusion the agreement of oculists everywhere as a result of their cumulative experience, it makes the argument, even to the most skeptical, hard to ignore. How far anyone should permit himself to be persuaded by the argument of authority is often questioned. We are all influenced by preconceived notions, and the specialist oftentimes by a too narrow point of view. As John Stuart Mill says: "Nothing can better show the absence of any scientific ground for the distinction between the cause of a phenomenon and its conditions than the capricious manner in which we select from among the conditions that which we choose to denominate the cause. However numerous the conditions may be, there is hardly any of them which may not, according to the purpose of our immediate discourse, obtain that nominal pre-eminence."

What has established beyond peradventure many of our modern medical data is the fact that we can always prove them by invariable experience. We know that pulmonary consumption is always caused by the tubercle-bacillus; that suppuration results from infective germs; and that myxedema is due to disease of the thyroid gland. On the other hand, it is well known that gastric neuroses may exist without eye-strain, and that eye-strain may exist without gastric neurosis. Someone has said:—"If we remove the element of invariableness, and suppose, if it be supposable, that the same antecedent is sometimes followed by one consequent, and sometimes by another, and sometimes by none at all, in such a case science would be impossible." Eye-strain is not an invariable antecedent or apparent cause of the different symptoms we have mentioned, and therefore our conclusions lack that certain scientific exactness necessary to establish them. Our knowledge is here, as it is still in much more of the practice of medicine, only empyrical. Why eye-strain produces in one person headaches, in another blepharitis; in one nervous dyspepsia, and in another general nervous prostration; in one migraine and in another epilepsy, is still a subject confined to the realm of theoretical speculation, logical and convincing as that might be made to appear. What we do know, however, is that there is a large amount of clinical evidence, which is growing larger every day, which shows that when certain patients with a great variety of neurotic symptoms are relieved of their eye-strain that in many of them these symptoms disappear.

My own notion about the matter is that eye-strain does not produce these symptoms directly or reflexly, as is commonly maintained, but that it produces a greater or less degree of general nervous debility—a neurasthenia, if you like—which, with other less marked though perhaps more definitely localizing causes, produces symptoms sometimes in the brain, the peripheral nerves, the stomach, or some other organ. A chain of ills forming a viscious circle is produced with the eye-strain acting as the connecting link; or a morbid structure with eye-strain as the corner-stone, which must be removed to establish health. If we can get back the patient's health and strength without eye treatment, no doubt but that the eye-strain will give little apparent trouble. But it can never exist without producing harm, and now and then you will find a case where the eye trouble is the mainspring of the whole difficulty, and until it is relieved the patient remains unimproved. On the other hand, there will be many cases where all eye disturbance is removed, and yet the morbid condition remains. As Dr. Oliver says: "Hunting down the imp of mischief here, as elsewhere, is a task which requires the acumen and the judgment of a broad-minded specialist, who is thoroughly conversant with general symptomatology."

No event in nature can exist without a cause. What successes we have gained in therapeutics thus far are those which reach the root of the evil. In the practice of medicine, we have largely to do with observing effects, the causes being often concealed from view. Our minds are directed to the organ which suffers; and in our zeal to relieve the symptoms we forget oftentimes that the underlying cause may be quite remote. (Who would have believed a few years back that the bite of a mosquito could cause yellow fever?) What intelligence or skill, worthy of even a patient's confidence, is displayed in treating headaches with analgesics, the pain of intestinal obstruction, with opiates, or hip-joint disease with antirheumatics? As Ranney says, speaking of the bromide treatment of epilepsy: "To benumb the cerebral centers by a drug so that they cease to respond to reflex irritation from any peripheral source, is not curing the disease." If we wish to treat conscientiously and effectively the great variety of neuroses, whose number and complexity seems to be increasing, particularly in this country; if we wish to save some of our patients from the mental exhilaration and suggestive therapeutics of the quack, we must know the fundamental and real value of our static machines, tonics, digestants, anodynes, and, most of all, of the proprietary preparations, the last of which is making a large number of medicine venders rich at the expense of our patient's confidence and our own dignity. Medicine becomes a science only in so far as it deals with cause and effect; and all therapeutics which aims to modify symptoms only is in a large measure valueless.

What makes the etiology of many of these neuroses so obscure and so easily overlooked, is the fact that the eye-strain is commonly marked by the circumstance that the efforts of the patients to use their eyes are not made apparent by any symptoms in these organs themselves. As Dr. Coggeshall, in his remarks about his cases of gastric dyspepsia cured by glasses, says: "In my experience they have been to a great extent cases that did not have any headaches accompanying indigestion, no attacks of sick-headaches, so commonly recognized as due to the eyes; but most of them simply persistent recurrence of eructations of gas, distress, nausea, and a feeling of weight in the stomach, coming on anywhere from two to three minutes to hours after eating." I, myself, during all my student and beginning professional life put up with attacks of vertigo and intense weariness after prolonged study, without headaches or even a thought of my eyes. Two opticians of supposed skill had told me my eyes were nearly perfect and that glasses were not needed. But since I have worn glasses, correcting a considerable myopic astigmatism, I have not once had an attack of vertigo or experienced the same weariness, even after many hours of continuous application to close work.

I wish to make one more remark, if you please, and that is on the subject of prophylaxis. Not one of the least important steps in so-called preventive medicine is that made in the examination of school children's eyes. Many a child backward in its lessons, and whose studies are fatiguing and even loathsome, may find its course easier and pleasanter when the eye-strain is removed. Do not wait for headaches and eye symptoms in such a child to appear, for you will, I think, seldom find them. The child who has headaches and eye symptoms is generally the one who finds study otherwise a pleasure. Glasses, when needed and when put on early enough, will, I am sure, help in a large measure towards the mental and physical well being of adult life.

NEURASTHENIA IN CHILDREN

Dr. J. M. Taylor (International Medical Magazine) says the acquired form of neurasthenia, so common in adults, secondary to a large variety of exhausting conditions, is rare in children, but occurs with sufficient frequency to warrant attention. There are also many cases of feebleness or frailty, which, in essence, are instances of "nerve tire" and are the product of injudicious or unfortunate environment or upbringing so closely allied to hereditary causes that they cannot well be separated. Many of these cases will continue through life; a much larger number of them are capable of most satisfactory improvement. The manifestations of neurasthenia in children are obvious enough, if rightly interpreted. They may take the form of undue fondness for one pursuit, such as reading, or a hypersensitiveness to external impressions, or an overstrenuousness in play or work, a hypertension, or in other instances which are to be carefully discriminated from the last class, a hypotension.

The treatment of this condition requires the utmost care in all details of air, diet, exercise, etc. A modified form of rest cure is given in detail.—Post-Graduate.

RETROPHARYNGEAL ABSCESS IN ADULTS

By J. A. Watson, M. D.

Professor of Laryngology, Hamline University

MINNEAPOLIS

The recent occurrence in the writer's practice of a case of retropharyngeal abscess in an adult, together with the extreme rarity of the condition, has prompted him to pay a little special attention to the subject. That retropharyngeal abscess is a rare disease at any age is proven by the practically unanimous opinion of authorities. Henoch states in his work on "Pediatrics" that during an unusually large dispensary practice, extending over thirty-seven years and including an immense number of observations, he had seen only from thirty to forty cases. Very few writers on the subject have a personal experience of more than four or five cases on which to base their observations. During a discussion following an article by Roe in a meeting of the American Laryngological Association in 1884, few of the members could remember having seen more than two or three cases.

The extreme comparative rarity of its occurrence in adults is apparently questioned by Lenox Browne alone. He bases his scepticism on the fact of having personally observed four cases in adults against but two in children. His experience, however, was certainly exceptional, if not actually unique. S. Vere Pearson reported seventeen cases, one only of which had reached two years. Of Henoch's thirty or forty cases but one had reached three and a half years. Of Koplik's seventy-seven cases all were below ten years of age. Of one hundred and forty cases reported by Bokai it is not stated that any were adults. It is stated, however, that eighty-three per cent were below two years. To forestall the objection that most of those observers practiced chiefly, if not exclusively, among children it may be stated that a careful search of all the literature to which I have had access resulted in the discovery of references to only sixteen cases occurring in adult life. The scarcity of reported cases gains added weight from the consideration that the condition is usually easy to diagnose and consequently seldom overlooked in this class of patients, but in children, on the contrary, sometimes difficult to diagnose and perhaps not uncommonly mistakenly diagnosed as bronchopneumonia or other respiratory disorder.

CASES

Case 1.—Miss B——, hospital nurse, aged 20, consulted me on February 18, 1903. For four or five days previously she had a sense of fullness in the throat with slight difficulty in swallowing, some earache on the right side, frontal headache, and pain in the back of the neck. Her general health had always been good. Her family history was excellent. Inspection revealed a bulging forward of the whole right half of the posterior pharyngeal wall. The swelling extended from the level of the axis above to that of the epiglottis below. It was non-fluctuating and rather firm to the touch. The mucous membrane covering it was nearly normal in appearance, there being only slight congestion of its vessels. There was very slight swelling and some tenderness on pressure at the anterior border of the right sternomastoid muscle, just below the angle of the jaw. Tenderness could not be elicited over any of the cervical vertebræ, nor was pain produced by sudden downward pressure of the head. At no time during the course of the disease was the temperature elevated above normal, but was usually from one-half to one degree below normal.

As the symptoms were so little urgent that the patient was attending to her duties as usual, I adopted an expectant plan of treatment. After several days slight softening was evident and a vertical incision was made near the lower part of the swelling. This resulted in the evacuation of not more than half a drachm of thick yellow pus, and a slight discharge lasting four days. At the end of this time it had ceased, the swelling being reduced to about two-thirds its original size. A very small amount of pus was obtained by a second incision, which again healed in a few days with considerable further reduction in the size of the swelling. It was not reopened and in three weeks nothing remained but slight infiltration and thickening of the tissues in the right post-pharyngeal region. The patient is at present, May 1, in her usual state of health. It may be stated that at no time was there any apparent entry-point for infection. Neither was there any history of traumatism or exposure to cold. I greatly regret that the pus was not submitted to bacteriological examination.

Following are all the cases of which I have found mention.

2. A patient 18 years old, sex not stated. There was no fever or other disturbance except difficulty in swallowing. The mucous membrane was normal in appearance. No point of entrance for infection could be found. The presence of tubercle-bacilli was demonstrated by inoculating guinea-pigs with the pus (Goodale, Boston Med. and Surg. Jour., January, 1901).

3. Shurly mentions a case reported by Herrold of Chicago. The patient was a young woman aged 22, who had been previously in good health. No cause could be found. It ran a short course, the abscess rupturing spontaneously thirty-six hours after the onset of alarming symptoms.

4. An adult, age not given. A large part of the second cervical vertebra was necrosed, and exfoliated into the pharynx from whence it was removed by the patient who recovered (Dr. Syme, Edin. Med. and Surg. Journal, April, 1826).

5. An individual 40 years old, syphilitic. The bodies of the third and fourth cervical vertebræ were removed, and the patient recovered (Gunther, Duetsche Clinik 1856).

6. Bosworth mentions a case reported by Martin. An adult, the victim of tertiary syphilis, suffered from a suppurative process of the cervical glands, followed by a retropharyngeal abscess.

7. Also mentioned by Bosworth as having been reported by McCoy. The swelling extended from the level of the larynx, to the pharyngeal vault, giving rise to difficult deglutition and regurgitation of food.

8, 9, 10 and 11. These four cases were reported by Lenox Browne. Two of them appeared to be due to exposure to wet and cold, with unsanitary surroundings and poor food. In the other two there was a venereal history.

12, 13, 14, 15, 16, 17. Moore saw a case in a man of 40; Dunn, in a man of 62; Fischer, two cases, one a boy of 18, the other a man of 38. Shurly saw one case in an adult of 30; and Bosworth, in an adult of 36.

I have also found an indistinct reference to a case due to the traumatism produced by a foil, which passed through the nasal passage and injured the posterior pharyngeal wall. There was not, however, a definite statement that this was an adult case.

Mondiere has reported eleven cases in adults, besides a number in children, of combined retro-esophageal and retropharyngeal abscess, which hardly belong to the class under consideration.

Upon attempting a study of this condition one can hardly observe the paucity of material upon which to found any processes of inductive reasoning, and at the same time read the literature of the subject without becoming convinced that very many at least of the conclusions stated therein in regard to its pathology, etiology, and symptomatology have been either based upon analogy on the one hand or deduced from certain supposedly established facts on the other. If it be a fact, e. g., and I believe it is generally accepted as a fact, that the lymphatic structures of the retropharyngeal region atrophy and disappear by the fifth year of life, it is a tolerably safe assumption that the disease in adults cannot be an adenitis, and is more than likely to be a cellulitis. Analogy would then enable us to proceed a step further, and assert that while in child life its symptoms are insidious and poorly defined, the cardinal symptoms in adult life are here, as in most cases of cellulitis affecting other regions, severe pain and elevation of temperature, with an acute and rapid course. Whether as a result of such considerations or of actual observation, many, if not most writers, of whom I will mention Bosworth, Price Brown, Kyle, Felix Simon, and Watson Williams, agree in describing the disease as it occurs in adult life as distinct in its pathology and symptomatology from the retropharyngeal abscess of childhood, the distinction being drawn mainly on the lines just indicated. None of those writers, however, adduce instances in support of their observations.

I wish merely to point out that the clinical histories of the only two cases of the series here reported in which it has been possible to obtain anything like a detailed account of the symptoms and course of the disease do not support such a classification. The fact is that until a great many more cases are reported, and fully reported, we are very far from being in a position to give an intelligent account of the etiology, pathology, or symptomatology of retropharyngeal abscess in adults. Of the present series four were due to syphilis, there being in one of the four vertebral necrosis; one to vertebral necrosis, which is not stated to have been syphilitic; one to tuberculosis; two to exposure to wet and cold with unsanitary surroundings. In the other nine cases the cause was either not known or not stated. Nevertheless, Bosworth states that "we know of no case in an adult in which it has been caused by spinal caries," and Shurly that "the statement of some observers that acute retropharyngeal abscess is in some cases tuberculous is unsupported by investigation." Shurly's book, however, was written before the publication of Goodale's case, the second of this series. On the whole it seems probable that the disease as it occurs in adult life is identical in its etiology and pathology with the retropharyngeal abscess of childhood, any dissimilarity which may exist in the symptomatology being due to differences in the anatomical conformation of the throat. We know at least that in either class of cases it may be caused by caries; syphilis, tuberculosis, exposure to wet and cold and unsanitary surroundings, and injury, while the marked difference of opinion that exists as to whether the disease is usually an adenitis or a cellulitis in childhood would alone make the pathological distinction drawn by so many writers a purely arbitrary one.

POST-OPERATIVE NASAL SYNECHIÆ*

By Marion A. Mead, M. D.

Clinical Assistant in Rhinology and Laryngology, University of Minnesota

MINNEAPOLIS

No department of rhinological surgery affords greater opportunity for the display of patience and skill than the management of post-operative nasal adhesions, or synechiæ.

The limited literature on this subject affords little assistance, and the operator must resort to original device and, unfortunately, sometimes to a variety of experiments before his efforts are crowned with success.

During the past two years the writer has encountered many cases of nasal synechiæ varying in degree from a single narrow band of fibrous tissue running across the nasal chamber to complete surface adhesion of the corresponding parts of the outer and inner walls. The most extensive and persistent adhesions are found in the highest and narrowest parts of the nasal space, viz., the region including the upper two-thirds of the inner surface of the middle turbinal body and corresponding surface of the nasal septum. In this region only a slight degree of swelling of the cauterized tissues will serve to bring the opposite surfaces in contact.

In cases presenting isolated bands, the essential feature of treatment is the removal of the entire synechia, causing the least possible injury to those parts to which it is attached. To accomplish this (after thoroughly cleansing the nasal passage with a mild saline solution and cocainizing the tissues) it is well to seize the center of the communicating band with a tenaculum, and cut either extremity with a sharp knife or scissors. The knife is preferable as it leaves a narrower, cleaner surface than that produced by scissors. It also occupies less space in the nares and gives the operator a better view of the field. The tenaculum is used to prevent the escape of the cut end of the synechia, which, by its elasticity, often evades repeated attempts to seize it.

The after-treatment of this simplest form of nasal occlusion demands daily applications of an antiseptic, oily spray, or an astringent and antiseptic powder consisting of equal parts of orthoform and boric acid.

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*Read before the Hennepin County Medical Society, May 4, 1903.

The second variety of synechiæ should be separated by passing a probe-pointed bistoury from above downward, and from before backward, following as accurately as possible the line of union of corresponding tissues. If there is much turgescence of the parts, it is well to apply adrenalin before separating the adhesion, as the absence of bleeding greatly facilitates this step. During their healing these surfaces may be kept apart by the insertion of a double fold of sterilized rubber tissue, carried into position by inserting the flat end of a probe along the fold of the tissue, taking care to pass the wedge well up beyond the limit of adhesion, that it may be thus held in position and also prevent reunion of the upper limit of the denuded surfaces. The dressings should be renewed daily, and the parts carefully cleansed with an antiseptic solution. As the swelling subsides the rubber tissue may not be retained in position, and can be re-inforced by a bit of sterilized cotton folded within it. Gauze or cotton not covered with tissue become adherent to the open surfaces and greatly retard their healing.

The most pronounced cases of nasal synechiæ require the above treatment for from three weeks to as many months to complete their cure.

In conclusion: a word regarding the prevention of nasal synechiæ may not be out of place.

A review of the histories of the cases here cited shows that in every instance the galvanocautery point had been used in the primary operation. It is well known that the re-action following any but the most skillful use of the electrocautery is greater than that resulting from the careful use of some of the mineral caustics. This fact would seem to preclude its use in those parts of the nasal fossæ where the space is narrow and therefore admits of little swelling.

Rhinologists pretty generally agree that in order to produce adhesions, opposite points of the nasal mucous membrane must have been cauterized. If this be true, too great care cannot be exercised in illuminating the field of operation and, if need be, protecting the opposite surface, when this method of treatment is employed.

Frequent inspection of the cauterized area is to be recommended during the entire process of healing.

A CASE OF PARTIAL PLACENTA PREVIA, WITH PREMATURE TOTAL DETACHMENT, COMPLETE UTERINE INERTIA AND DUAL FATALITY

By W. A. Chamberlin, M. D.

WASECA, MINN.

Mrs. R——, primipara, aged 34; large and quite adipose, but otherwise in good health; family history and antecedents without special interest, except that three and two years previously she had undergone two spontaneous abortions of three and two months, respectively, accompanied with excessive hemorrhage, but without pains or appreciable contractions. I am now of the opinion that both of these were complicated by, if not the result of, placenta previa also. About six months prior to the disastrous termination of this last pregnancy she called upon me to ascertain, if possible, whether or not she was pregnant, as both she and her husband were very desirous of having offspring, and to solicit my assistance toward preventing a repetition of former calamities in the event of a third conception having taken place. I pronounced her two months pregnant, and gave her some simple advice regarding her diet, exercise, mental control, etc., and prescribed a mild laxative for periodical use as needed. I frequently observed that she progressed admirably to within about five weeks of term,—the time of the sad event which has caused me to chronicle this case.

On April 10, 1903, about 11 a. m., her husband summoned me hurriedly, informing me that he thought his wife was being prematurely confined. On arrival I found that she had experienced a sudden and quite copious uterine hemorrhage, had retired and seemed quite comfortable, the bleeding having practically ceased, but that she looked somewhat anxious. She had not realized the slightest pain, nor had she suffered previously from traumatism, although the vigorous movements of the fetus up to this time, besides assuring us of its viability, had occasioned her a great deal of annoyance. I was at once convinced that I had to deal with a case of placenta previa, but could enlighten myself little further relative to the progress and outcome at this time as digital examination revealed a conical, resisting, undilated cervix, quite impervious to the finger. With a view to preparing her for the inevitable, realizing that nature had made no effort at contraction, and as hemorrhage had temporarily abated, I began the administration, in small and oft-repeated doses, of ergotin and strychnine, and cold drinks, and enjoined absolute rest and quiet. Despite the fact that there was not the least indication of contraction or pain, everything progressed favorably until 4:30 p. m., when I was again hastily called, and found her bleeding quite profusely. At this visit I packed the vagina firmly with sterilized gauge, forcing it well against the cervix and vaginal vault. Ergotin and strychnine were continued. About 9:30 p. m. I was notified that blood was issuing through the tampon, which I at once removed, finding that the mechanical irritation produced by the packing had softened and dilated the cervix to the extent of admitting the tip of my index finger quite through the internal os. I was thus enabled to detect at the patient's right the cranium of the child, while on her left I could barely palpate the free, detached margin of the placenta. As hemorrhage appeared to be comparatively slight during the following two or three hours, I persisted in my endeavors to induce uterine contractions by resort to various therapeutic agents, but all to no purpose; so about midnight, having completed general preparations and summoning Dr. J. F. Lynn to assist me, I resolved upon immediate accouchment forcé, and proceeded accordingly. With my patient lying across the bed, partially chloroformed, and supported by attendants, and my hand passed into the vagina, I succeeded in making a forcible, complete, manual dilatation of the cervix within less than twelve minutes. After rupturing the membranes and extending my hand up between the fetus and uterine wall I was not a little surprised to find the placenta completely detached and lying like a saturated sponge free within the cavity. Rapidly and without incident the feet were grasped and brought down, delivering the child to the shoulders at once, which caused a cessation of all external evidences of hemorrhage. At this stage, as we are classically enjoined to do, we rested, continuing pressure externally over the fundus uteri, hoping, after overcoming what might have proven to be an overdistention, that the uterus would contract, but instead I quickly discovered that the fundus was expanding on account of internal hemorrhage. To extricate the fetus was the work of but a few seconds, the placenta accompanying in toto by the cord attachment, when a gush of from one to two quarts of blood immediately followed the delivery of the head. The time from beginning of manual dilatation to complete extraction not more than twenty minutes.

At the instant of emptying the uterus I passed my hand within its cavity, making counter pressure with the left externally, but failed to induce the slightest contraction. Massage of the endometrium likewise resulted in dismal failure. Then by grasping the organ between the fingers of my right hand deeply inserted into the posterior cul de sac, and the left hand against a thick but now readily yielding abdominal wall, and an effort at compression of the abdominal aorta, I succeeded for nearly two hours in this most uncomfortable position in largely controlling the hemorrhage, while Dr. Lynn most assiduously and expeditiously administered by hypodermoclysis about one quart of normal salt solution beneath the mammary glands, as well as a like quantity within the colon, continuing ergotin, and strychnine hypodermically.

In her extremely exsanguinated condition all our efforts availed nothing, however, and our patient expired from hemorrhage and shock within less than three hours after commencing manipulations for forcible delivery. Surgical intervention in this case, after relieving the uterus for the purpose of direct manual compression of the organ and uterine arteries, as has been authoritatively recommended, because of the exhausted condition of patient would have proven futile. The only expedient, in my opinion, offering the possibility of a successful termination of this most deplorable affair would have been an early hysterectomy or, less probable, a Cesarean section.

REPORT OF A CASE OF ARSENICAL NEURITIS

By H. G. Parker, M. D.

MADISON LAKE, MINN.

On Dec. 26, 1902, I was called to see a young woman 20 years old, a blonde, who had been teaching school. Two weeks previous she had caught cold, which was on Dec. 12. She felt weak, numb, with tingling sensations. At last she was unable to keep her register, and could not write; eyelids puffy; and she came home with fever and cough. I was called in and found the temperature 103°; pulse 110, and volume slight; coughing some; feet and hands cold; circulation poor; had been anemic for months; pain in limbs somewhat sharp, and in hands; index finger and thumb she could not control; wrist-drop slight; reflex abolished (knee and wrist); tactile sense very poor, almost absent; could not stand, and when she tried to, she went down immediately. In two days the temperature became normal, and cough was better; pulse 100; no appetite; limbs painful along track of nerves upon slight pressure; not very much pain excepting upon slight pressure.

Right here I discovered the young woman had been taking 14 drops of Fowler's solution for acne, just previous to her coming home; she had at first kept it from me. The diagnosis of arsenical neuritis seemed evident.

I treated her for about four weeks on solution of hypophosphites of iron. There was no change in her condition; feeding forced, giving cream and English walnuts, milk, etc. Then gave an alternative; soreness and pain disappeared somewhat from limbs.

On Feb. 3, she tried to stand first time out of bed; could use feet some with assistance, but painful enough to wish to lie down; tactile sense improving; no tingling; no numbness to speak of; could use hands fairly well, holding a book for short time.

On Feb. 15th, pain in limbs hardly perceptible; wrists and hands doing good service; only forefinger and thumb remaining numb; Faradic current in use; steady improvement noticeable from beginning of its use; hypophosphites and alterative only used; then alterative dropped.

Feb. 25th, walking some with aid of cane.

March 10th, walking about house; pulse 100; no knee or wrist jerk; improvement steady and rapid.

March 30th, in town walking with slight drop noticeable in gait.

April 10th, in office; pulse 90; extensors working very well; feet and hands cold; no knee or wrist jerk discoverable; walking around almost as well as ever; appetite good.

On April 20th, patient discharges herself, and leaves practical proof of gratitude.

She has had some return of acne, but had none when ceased taking Fowler's solution.

This patient was taking Fowler's solution without supervision of the doctor, who simply prescribed it and saw her but once afterward giving her no instructions as to the symptoms of arsenical poisoning.

THE FOUNDER OF THE SALICYLIC TREATMENT

The death of Dr. McLagan, the founder of the salicylic treatment of rheumatism, recalls much past history. That this treatment has enjoyed an unusual share of popularity cannot be gainsaid. How is it to be in the future? The pathological conception underlying the salicylic treatment is undoubtedly changing. Rheumatism will soon be considered distinctly microbic in its toxins rather than purely chemical. Probably the originator of this treatment, had he lived much longer, would have had to change his convictions on many points. However, McLagan's name will live in medicine as the founder of a line of treatment which, however empiric it may be, will not be the less valuable when all the conditions of the problem are revealed.—Medical Age.

The Medical Department of Columbia University is to be reorganized, and the new policy will follow the plan now used at Johns Hopkins and Harvard. The system of quizzes will be abolished.

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MEETING OF THE STATE MEDICAL SOCIETY

The State Medical Society meets on the 17th inst. in St. Paul, and will convene in the Council Chamber of the City Hall.

The meeting should be the largest in the history of the Society as the membership has been largely increased by the new organization plans.

The Lancet will publish the preliminary program in our issue of June 15th.

THE AMERICAN MEDICAL ASSOCIATION

The total registration of the New Orleans meeting was 2,006, thirteen less than that at the meeting in Atlantic City in 1900.

Louisiana very naturally contributed the largest state attendance, 311; Illinois sent 189; Minnesota, 37. The Minnesota men expressed themselves as pleased with the meeting and the entertainments.

Dr. J. E. Moore presided over the surgical section in a very graceful manner, and ruled with an iron hand.

Evidently, Minnesota is looked upon with favor from a surgical standpoint as Dr. W. J. Mayo, of Rochester, was made Orator in Surgery for the next meeting,— a very deserving compliment to a deserving man.

The meeting at Atlantic City next year, as well as the meeting in that city in 1900, emphasizes the desirability of abundant and accessible hotel accommodations. The only fault found with New Orleans was the inadequacy of its hotels and the difficulty in comfortably placing the guests of the Association.

Atlantic City is the greatest hotel city in the United States. No matter how great the crowd, all can be made comfortable within a small radius.

THE AMERICAN CONGRESS OF PHYSICIANS

The meeting of this body of the society of specialists was more than usually successful. Many who were in attendance at New Orleans extended their vacation for the Washington meeting.

More societies were included, and each contributed a larger attendance.

One of the most interesting discussions took place in the American Orthopedic Association. A resolution was introduced applauding the efforts and skill of Dr. Lorenz in his bloodless method.

The hysteria which characterized Dr. Lorenz' appearance early last winter, had subsided, and the conservatives were not so eager to go on record as champions of the newer method of bloodless reductions. The resolution failed to pass in face of the discussion urging the members to withhold judgment until sufficient time had elapsed to demonstrate the value, comparatively, of the various methods.

Dr. Lorenz was in attendance at the Washington meeting but took no part in the controversy.

The Congress meets once in three years and is growing in popularity.

DEATH OF A NURSE

The death of Miss Alecia Woodard of typhoid while a pupil of the training school of St. Barnabas Hospital was announced last month.

Miss Woodard was a young woman of singularly fine character, and was looked upon as a model pupil. She had many friends who were interested in her career and who regret her unfortunate death.

The physician and nurse stand in such close relationship to the patient that the demise of one is almost as deplorable as that of the other. The death of a nurse who is fitted and qualified for her work, and who by her skill and personality attains a practice and reputation, is a great loss to either profession.

Fortunately, a good nurse is fully appreciated by her patients.

Occasionally, too often in fact, the nurse is looked upon as a servant and is given the same consideration by uncultivated or ignorant people.

When one considers the three years of study and training, the discipline of hospital life and the untiring and intense toil of the graduate nurse, every consideration should be given to assist and prolong her life. Their profession is an elevated one, and they should be honored and applauded for their unselfish devotion.

"CHRISTIAN HOSPITAL"

From the number of complaints that have reached the Lancet, the above-mentioned hospital has been well advertised in Minnesota. It has recently sent many circulars to this city.

The scheme is a fraud from start to finish, and the boldness of the statements are sufficient to condemn it utterly. The name of a prominent Chicago surgeon heads the staff of the hospital, and may deceive some of the profession.

It is safe to say that the names of the prominent physicians were absolutely unauthorized or their initials transposed or changed in order to mislead. The plan of paying from twenty-five to fifty per cent of the fees received from patients sent to the hospital by physicians, is a deliberate attempt to bleed the patient and corrupt the medical man. The fraud is fathered by A. C. Probert and C. W. H. B. Granville who, two years ago, conducted the notorious "St. Luke's Hospital" diploma-mill. These men were forced to change their residence to the state of Michigan where they could operate without legal restrictions. The recent move to Chicago, the place of their former exploits, was cleverly planned after the legislature had adjourned. The laws of the state offer no serious obstacles to their operations unless the postal laws are violated.

Send no money to such a concern under any circumstances, stamp the firm as fraudulent and explain the unauthorized appearance of the names of well known men.

THE LAY PRESS AND MEDICAL MATTERS

The lay press tells us so many things in medicine that are not true, and to which the medical press often takes exception, we must not fail to give this same lay press credit for the good things —medical things, of course,—they do print. Here are a few excerpts from our lay-press exchanges of a single week:

"Dr. ——— has just added a $400 *x*-ray machine to his studio, and is now properly equipped to locate certain diseases."

"Dr. ——— lately purchased a set of surgical instruments with electrical appliances to light up the cavities of the body. He finds them very useful in his practice."

"Dr. ——— will have an *x*-ray machine established in his office. Considering the *x*-ray machine, the boon to humanity, which is sure to be a success."

"With his modern electrical instrument, Dr. ——— can examine the interior of the ears, nose, throat, and body cavities."

We fear the "studios" of some of our city physicians are lacking in modern appliances, and we beg leave to suggest that some of our younger practitioners would confer a benefit upon the profession, and incidentally upon humanity, if they would make a trip of observation through Minnesota and the Dakotas, and report to the Hennepin County and to the State Society the present status of electricity in modern medical and surgical practice.

Perhaps a trip up and down Washington avenue might be equally productive of good results, for there are many modern "studios" on that thoroughfare quite unknown to medical men.

DR. I. N. WEAR

According to last reports, Dr. I. N. Wear, of Fargo, N. D., a delegate to the International Congress in Madrid, who was stricken with an attack of hemiplegia and aphasia at the Auditorium Hotel in Chicago, is able to be about, and is slowly regaining his speech.

CORRESPONDENCE

MEDICAL STUDY IN VIENNA

Vienna, April 11, 1903.

Editor Northwestern Lancet:

The center of medical work in Vienna is the General Hospital, the largest in Europe. It is situated in the heart of a busy part of the city, a collection of connected gray stucco-covered buildings two and three stories in height, covering with its included courts twenty-five acres of ground and containing 2,600 beds. The present old buildings will soon be replaced with new and completely modern structures, the plans of which are already made. The adjoining Pathological Institute is a relatively late addition and is a strictly modern building. In addition to the 2,600 in-patients the ambulatoria treat daily between 1,500 and 2,000 walking cases.

In the wards each bed has 38 cubic meters of air space, and in spite of the odd exterior appearance, the rooms are well lighted and ventilated by direct and warmed air.

There are numerous hospitals, ambulatoria, and clinics, besides the General Hospital, which greatly add to the opportunities in Vienna.

The Policlinic has an 800 bed hospital endowed by the Rothschilds, and other wealthy families, and is the largest charity institution in the city. Valuable work is also to be had in the Rudolph, Wieden, Franz Joseph, and Caroline Children's hospitals, as well as in the numerous sanitaria for tuberculosis near by.

The enormous amount of clinical material available and the peculiar organization of the General Hospital combine to give the physician exceptionally good advantages for work.

The Hospital is made up of something over 100 more or less extensive divisions, at the head of each standing a Professor, Docent, or Primararzt. The division has further Assistants, and under-physicians according to its size. Many of these divisions are under the direct supervision of the University of Vienna with Professors for their chiefs. Such are the larger divisions for Medicine, Surgery, Skin, Gynecology, Obstetrics, Children, Ear, Nose and Throat, and Eye.

As the clinics are generally known by the name of the Professors, one speaks of them as the "Neusser," "Nothnagel," "Neumann," "Pilitzer" clinics.

The Professor necessarily gives only the general or lecture room clinics, and no private or ward work. General clinics are also given by those Docents and Professors who have the right to teach under the University, but no ward in the Hospital. The most valuable work, however, is that given by the Assistants, of whom there may be three or four in one clinic each giving private instruction in its wards. In these courses of ward work the number of men is limited generally to ten. The Assistants have had long experience in hospital work and have every incentive to make their courses excel. As a rule the Assistant, at least in the Medical Clinics, has no practice outside the Hospital, and beside the income he derives from teaching, his promotion in either the University or Hospital depend upon his success as a teacher or an investigator. The courses given by an Assistant are subject to the direct supervision of the chief of the clinic. A Docent, on the contrary, holds authority directly from the University to teach. He may or may not be an Assistant. The Internes or Externes bear here the significant name of Aspirant. They have generally but four beds each in their charge.

The medical teaching follows the semester periods of the University, and for the general clinics one registers as a member of the University, paying a nominal fee. The year begins, as in American colleges, in September and closes in June or July. Private courses are independent of the University calendar and are often offered during the vacations. Excellent work may be done in these less crowded times, especially in the laboratories.

It is impossible to even enumerate all the clinics and courses, but following is a brief list of those most sought by the American physicians.

In the department of "Innere Medicine," Professors Nothnagel, Neusser, and Schrotter each hold daily clinics, in the lecture rooms of their respective Clinics, the I, II, and III Medical Divisions. Professor Chovstek holds a daily clinic also in the II Division, three times a week on diseases of the nervous system, and twice on general diagnosis. The best known of the ward courses in medicine are those of Türck, Schmidt, Styskal, Czylharz, and Docent Kavocs, Primararzt. A place in any one of these classes is difficult to obtain. The work consists of bedside teaching, to classes of four to ten men, of selected cases, and the daily observation of those already examined. As every case dying in the Hospital, besides street deaths and many occurring in private practice, comes to autopsy, an excellent opportunity is offered to compare clinical and pathological diagnoses. All post-mortem examinations are held in the Pathological Institute early every morning and may be attended by any physician who has work in the Hospital. Professor Ghon gives a course in gross pathology from 5 to 7 o'clock daily, which consists of the demonstration of the interesting features of the morning's autopsies. The old and extensive Museum of the Institute is freely used in this course.

In microscopic pathology Assistants Landsteiner and Stoerck give laboratory courses in the Institute. One of the best opportunities for such work is with Professor Albrecht in the Policlinic, who takes but four men in his laboratory.

In Surgery, Professor Eiselsberg and Gussenbauer each hold a University clinic daily. By making special arrangements some few men see also the private operations. Work in operative surgery may be had from their Assistants, of whom Pupovac and Lorenz are the most sought after. Professor Adolf Lorenz holds daily clinics in Orthopedic Surgery, and during January, February and March he gave also a private course to 25 men which was very satisfactory up to the time he returned to America.

In Gynecology the University clinics are given by the heads of the two largest divisions, Professors Shauta and Chrabak. Private courses in diagnosis and treatment by their Assistants, Peham, Knauer, Halban and Burger are offered.

Besides the clinics in diseases of the nervous system by Chrvorty, Professor Obersteiner holds a daily University clinic, and has a laboratory in which it is at times possible to do work in the pathology of this department.

Professor Frankel-Hochwart, who was mentioned to be Krafft-Ebing's probable successor, also gives daily clinics, now known as the Wagner clinic.

In Dermatology and Syphilis the choice of work is wide, for which Vienna has long been famed.

Professor Riehe holds a daily University Clinic in Dermatology; Professor Neumann in Syphilis; Professor Lang in Dermatology, and has also the department for photo-therapy. Professor Ehrmann has a clinic and ambulatorium, and also a laboratory where much of the best work in skin pathology is done. At the Rudolph Spital Professor Mracek gives private work. Professor Ernst Finger's clinic for Genito-Urinary diseases has been removed to the Wieden Spital. The private courses in these Clinics are too numerous to name, being given by all the Assistants.

Professor Pocitzer's Clinic for Ear, Throat and Nose and Professor Fuch's Clinic for the Eye have also drawn many students to Vienna.

In both one can do much individual work daily, the ambulatories furnishing a large amount of material. Professor Schnabel's clinic for the Eye furnishes excellent work.

The fees for private courses are comparatively high in Vienna, as are living expenses. However, if work is desired in more than one branch of medicine, the economy of time partly compensates for the greater expense because it is possible to use the entire day to good advantage and most of the work one does is in the General Hospital. Another disadvantage of study in Vienna lies in the greater difficulties of the German as one hears it. The Vienna dialect of the hospital patients is sometimes hard to harmonize with the language of northern Germany, and it is also an everyday occurrence to find that the patient here speaks only Bohemian, Hungarian, Slavic, or some other tongue.

Americans are welcomed in the medical department of the University. The private courses are almost exclusively filled by our countrymen, of whom there are at present about 100, and a dozen English and north Germans.

It is advantageous to begin work in Vienna during the first few months of the fall semester The more desirable places in courses limited to few men are rapidly filled by the Americans who came before the holidays and it is common for one who arrives late to find he must wait from three to six months to get into some of the courses he most desires.

Formerly it was customary for one man to give his place in a course to any successor he chose when he gave up the work, and it was by this fact possible to obtain places ahead by correspondence with friends against the time of arrival. Now since all the better courses are conducted upon the waiting-list plan a place in them is only to be had by personally registering for it in Vienna.

J. G. Cross.

BOOK NOTICES

Diseases of the Heart and Arterial System. By Robert Hall Babcock, A. M., M. D., Professor of Clinical Medicine and Diseases of the Chest, College of Physicians and Surgeons (Medical Department of the Illinois State University), Chicago. Three colored plates and one hundred and thirty-nine illustrations in the text. Cloth, $6.00. Half leather, $6.50. New York: D. Appleton and Company.

Another beautiful sample of the printer's art from the press of D. Appleton & Co., with its fine binding, heavy paper, and clear type, has been put into the hands of the medical profession. It is always a pleasure to pick up one of their products, for one is always certain that he has a book which is well worth the reading, and particularly is this true of the volume on diseases of the heart and arterial system from the pen of Dr. Robert Hall Babcock, of Chicago.

Dr. Babcock has been peculiarly gifted by nature with environments, opportunities, and ability fitting him in an unusual degree for the study of diseases of the heart and blood-vessels to which he has given his exclusive attention since entering the profession over twenty years ago. One cannot read many pages of his new book without being deeply impressed with the fact that the author is a hard student and enthusiastically in love with his work. He inspires his readers with his interest, and one reads on and on forgetting that he formerly considered books on this subject dry reading.

The style is easy, conversational, clear, and free from the ponderous didactic manner of many writers. He has the happy faculty of putting the subject before you, clearly, concisely, and in such a manner that a busy man can grasp the thought without wading through volumes of extraneous matter. The many plates and illustrations aid one in readily grasping the subject in hand.

The introductory chapter brings out many new ideas on the location and cause of normal heart sounds and the many varieties of murmurs. The differential diagnosis between accidental and pathological heart murmurs is of interest.

The author approaches the diseases of the heart by first taking up those of the pericardium. He places much more importance upon this topic than most authors, because it is a common form of heart disease often overlooked. His method of treating this subject is followed in the discussion of the other forms of heart and arterial diseases. He does not give the views of many authors, and criticise each one, but outlines the opinions of many. He does not quarrel with their ideas, but selects that theory which corresponds with his experience and seems most rational to him.

Statistics are rarely given, but just such conclusions are drawn from them as serve to give the reader a clear idea of the matter in hand.

Pericarditis, acute and chronic, with and without effusion, is treated at length; then short sections are devoted to the complications of pericarditis due to hemorrhage, effusion, tuberculosis, pneumonia, syphilis, and malignant growths.

The following four hundred pages are devoted to diseases of the endocardium—endocarditis and the sequellant diseases, such as the regurgitation and stenosis of the mitral, aortic, tricuspid, and pulmonary valves.

The chapter on combined valvular lesions is very interesting.

Dr. Babcock embodies in his writing two subjects often omitted by other authors: First, the prognosis and manner of death in these different forms of heart disease; and, secondly, the treatment. Osler says that nine-tenths of the battle is won when a correct diagnosis is made, but we are often at a loss to know what to do afterwards. Dr. Babcock does not lay down any absolute rules as to treatment, but tells what treatment he gave and his results.

Throughout the book clinical cases are cited which serve to elucidate the point under discussion. These instances are freed from the minutiæ found in many clinical reports and only that is given which will be necessarily instructive and interesting to the reader. From his vast number of patients, reports are given of individual cases serving to illustrate the typical and the two extreme variations from the typical case.

While deferring to the opinions of other investigators his book is especially of value, as it gives the author's own experience and conclusions.

The chapters on mitral stenosis and aortic regurgitation are valuable contributions to the subject.

The prognosis in general of valvular lesions is a chapter treating of questions that daily confront the general practitioner.

The treatment of valvular lesions is especially of interest. These articles on valvular diseases of the left heart, valvular diseases of right heart, and the chapter on the prognosis of valvular diseases in general are unlike anything usually found in text-books, and they show a great deal of thought as well as original investigation.

Aside from a careful discussion of the value of drugs the treatment by resistance exercises is accompanied by 19 photographs, and a very extensive description is given of the Nauheim baths, the class of patients requiring them, and the manner of administration.

The third section of this interesting work is devoted to the diseases of the heart muscle, and it is treated after the general outline laid down in the other sections.

The chapter on Cheyne-Stokes respiration is splendid, while the author makes an elaborate chapter on Stokes-Adams disease, a subject often omitted by other writers. He gives a résumé of all that has been written of importance on this, coupled with a report of the investigations of patients brought to his attention. Much that is new has been added to our knowledge of this strange form of heart disease.

The chapter on dextrocardia is not treated of in any other volume on diseases of the heart, although from time to time reports of such cases have appeared in the medical and lay press.

Another unique and valuable feature of this work is the chapter on cardiac thrombi, which is not touched upon by any other author except in Allbut's "System of Medicine," and is of practical interest to the general practitioner.

The appendix contains the author's conclusions on the use of *x*-rays, the sphygmograph, and the tonometer. Some help can be gained, he says, by all of them, but they should be used as adjuncts to diagnosis, and not depended upon as absolutely faultless.

While giving nearly 30 tracings, he comes to the same conclusion that others have who have used the sphygmograph, namely, that it is reliable relatively to the skill and mechanical ability of the operator. As Babcock says: "It is one of the most useful and most useless of instruments."

The same conclusions are reached as regards Gærtner's tonometer, which is a device to measure the blood-pressure. The personal equation so enters into the use of this instrument that it becomes valuable only in the hands of one man for his personal investigations, and its results are not absolute.

This volume will take a high rank in the study of diseases of the heart, for since Flint, Sansom, and Broadbent nothing has been written that adds anything new to the subject.

It is with many thanks to the author that the medical profession will welcome this volume.

D. Edmund Smith.

REFLEX CONVULSIONS IN GROWING BOYS AND GIRLS

Eustace Smith, M. D. (Lancet, Jan. 24), questions the diagnosis of epilepsy in the case of convulsions of children after infancy, grounding his doubts on the fact that digestive disorders or other local disturbance will cause convulsions which cease on removal of the cause. He cites a number of cases and emphasizes the danger to the nervous system of any long continued irritation. The presence of that common symptom, habitual cold feet, may thwart the best efforts to treat a chronic complaint in children. Indirectly it affects the nutrition and tends to heighten the susceptibility to chills, thus aggravating any weakness or injurious tendency. It is probable that these cases in which attacks recur after treatment are really not cases of reflex convulsions, even at first, but the intellect is not affected, as a rule. In those cases in which convulsions are caused by indigestion a removal of the cause will be followed by complete cessation of the trouble, and with proper treatment health will be restored. Many cases have been observed by him which warrant his assertion that young persons who, as late as twelve years of age, have suffered from these seizures, may grow into perfect adults, showing no further symptoms of the weakness of their childhood.—Pediatrics.

NEWS ITEMS

Dr. E. T. Reeve, of Elbow Lake, is taking a special course in Chicago.

Dr. J. H. Vogel, who graduates from Rush this month, expects to locate in New Ulm.

Dr. William Reid, formerly of Verndale, has located in Brainerd, and not in Little Falls as recently reported.

Dr. C. W. Pettit, formerly associated with Dr. P. A. Smith, of Faribault, has located for practice in Byron.

Dr. J. B. White, of Faribault, who has been doing post-graduate work in Chicago, is expected home this week.

Dr. D. F. Dumas, who has served in the City Hospital of Minneapolis for the past year, has located at Albert Lea.

Dr. Frederick Barrett, of Eveleth, was recently offered a position as surgeon in the U. S. navy, but declined the same.

Dr. C. C. May, of Adrian, has returned to practice after spending six months in the East in special study, mainly in surgery.

Fergus Falls is to have a general hospital, which will be given to the city by Mr. Vernon S. Wright in memory of his father, George B. Wright.

Dr. Silas E. Farnsworth, of Minneapolis, died last month. Dr. Farnsworth graduated from the University of Vermont in 1867, and was admitted to practice in Minnesota in 1887.

Dr. Edgar T. Schmidt, of St. Paul, died of heart disease last month. Dr. Schmidt was a graduate of Jefferson Medical College, and has practiced in St. Paul fifteen years. He was 48 years of age.

Gov. Van Sant has appointed the Advisory Board for the State Sanitorium as follows: Dr. George B. Weiser, New Ulm; Dr. A. P. Williamson (homeopathic), Minneapolis; Dr. James L. Camp, Brainerd; Dr. George S. Wattam, Warren; Dr. H. L. Taylor, St. Paul.

Dr. Stuart Bates, of Virginia, died last month from the effects of a large dose of laudanum taken by mistake. Dr. Bates was an influential man, and had a large circle of friends. He was a graduate of Trinity and Victoria colleges, and he came to Minnesota in 1893.

Dr. H. J. Englund, of Cambridge, died last month. Dr. Englund was a graduate of Bennett and Rush colleges. He had been a resident of Cambridge since he was ten years of age, and was very highly respected in the county. He had an extensive practice, and will be greatly missed.

By arrangement with the State Board of Medical Examiners the Lancet will hereafter publish the names of those passing the Board's examination, and licensed to practice in Minnesota. These lists will be printed in the length and style adopted for the Official Register, and thus the names can be pasted in the register and a complete record easily kept. We herewith repeat the names of those licensed April 17.

Armstrong, L. W. (R.); U. of Md., '00; April 17, '03............Breckenridge
Aubin, Alex. (R); Laval, '02; April 17, '03............................Hamel
Baker, A. C. (R); Kan. City Med. Col., '01; April 17, '03..............Stephen
Cowern, E. W. (R); Dartmouth, N. H., '02; April 17, '03........No. St. Paul
Dumas, D. F. (R); P. & S. Chicago, '02; April 17, '03............Albert Lea
Goldblum, G. J. (R); P. & S. Chicago, '02; April 17, '03..........Minneapolis
Hall, A. R. (R); McGill, '00; April 17, '03.......................St. Paul
Hoffman, C. B. (R); Rush, '01; April 17, '03.............................Buhl
Kussart, Jacob Jr. (R); Kan. City Med. Co., '99; April 17, '03..Park Rapids
Kahala, Arthur (R); Hamline, '02; April 17, '03...................St. Paul
Little, W. J. (R); U. of Mich., '98; April 17, '03..................St. Paul
Larsen, H. A. (R); Hamline, '02; April 17, '03.................Minneapolis
Lewis, C. F. (R); Vanderbilt, Tenn., '00; April 17, '03................Austin
Maercklein, C. J. (R); P. & S., Wis., '02; April 17, '03................Le Roy
Ravich, Simon (R); Medico-Chirurgical, Pa., '02; April 17, '03........St. Paul
Reeves, C. E. (R); P. & S., Iowa, '00; April 17, '03................Clarissa
Sessions, J. C. (R); U. of Ill., '02; April 17, '03....................Minneapolis
Wilkinson, G. P. (R); U. of Pa., '83; April 17, '03..............Omaha, Neb.
Ward, Jennie E. W. (R); Hahnemann, Chicago, '95; April 17, '03..Minneapolis
Zaun, J. J. (R); Rush, '01; April 17, '03.....................Pawaukee, Wis.

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INTESTINAL PERFORATION IN TYPHOID FEVER*

By Edwin T. Ramsey, M. D.

CLARK, S. D.

The question of typhoid perforation presented itself to me as a subject for discussion, because, during the last fifteen months, three cases have come under my observation, in which the first symptoms to develop were those of perforation.

Of the surgical complications of typhoid fever, peritonitis is by far the most common, and it is caused, in a great majority of the cases, by perforation of the intestinal ulcers. It may remain circumscribed, or, as is unfortunately more common, it may be general. This complication is not only one of the most frequent, but one of the most characteristic causes of a sudden and exceedingly dangerous and often fatal change in the course of an attack of typhoid, and it only occurs as a rarity during the course of any other acute infectious disease. At times, perforative peritonitis is the first distinct manifestation in a case of walking-typhoid, which has previously shown no symptoms or has been attended with very little disturbance. This occurrence is by no means rare, so that in a patient with perforative peritonitis, giving an uncertain history or none at all, the possibility of typhoid should be kept in mind. This class of cases is usually diagnosed incorrectly, until the abdomen is opened and the true condition revealed. The symptoms of perforation will, in about one-fourth of the cases, develop suddenly in a case of apparently mild course, with only a slight fever, an absence of distension, and other abdominal symptoms. It should be noted, however, that it is the severe cases and those that pursue a grave course from the beginning, that are most apt to be complicated with perforation.

The frequency of typhoid perforation is estimated variously. In an article read by Fitz before the Association of American Physicians, in 1891, he reported a mortality from perforation of 6.58 per cent out of 4,680 cases collected by him. Murchison found its frequency was 11.38 per cent in 1,721 cases. Schulz found it in 1.2 per cent of 3,686 cases treated in Hamburg in 1886-1887, and Liebermeister reports a percentage of 1.3 of 2,000 cases treated by him from 1865-1872. At the Johns Hopkins Hospital, out of a total of 829 cases admitted from 1889-1899, 23, or 2.7 per cent, had perforation.

Of the total number of deaths from typhoid fever, those caused by perforation of the intestine are variously estimated from 9 to 12 per cent, but this is also extremely variable. In some epidemics it is quite rare, while in others it is quite frequent. Heschel, in an epidemic lasting from 1840 to 1849, observed 56 cases out of 1,271 autopsies, a percentage of 4.4. Brouardel, in an article on typhoid published in 1895, reported 190 cases in 1,721 autopsies, a percentage of 11. Murchison reported a percentage of 21.2 in 165 autopsies. Of the 829 cases treated at Johns Hopkins Hospital from 1889 to 1899, there were 63 deaths, twenty of which were caused by perforation, which is about 32 per cent.

Perforation occurs most frequently among men, for what reason is not known, occurring in about 70 per cent of the cases collected by

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*Read before the South Dakota Medical Association, May 27, 1903.

Fitz and in about 29 per cent of the cases in women, while in children it is very rare. It is most common between the ages of twenty and forty, and after fifty years of age it is seldom seen. The time during the course of the disease at which the perforation is most likely to occur is between the middle of the second week and the end of the fourth, but of the cases collected by Fitz four occurred during the first week. Cases have also been reported as occurring in the eleventh and twelfth and one case is reported as occurring as late as the sixteenth week.

Perforation is but rarely independent of the lesions of Peyer's patches or the solitary follicles, and is consequently found most frequently in the lower third of the ileum, where it occurs in about 81 per cent of all cases. Rupture of the small intestine at a higher point than the lower third of the ileum is observed less frequently, but it has been found in the upper part of the ileum and even, in a few cases, in the jejunum. The cecum and parts adjacent to the ileocecal valve are less commonly the seat of rupture, and it has been observed at almost all parts of the colon and even in the rectum. Perforation occurs in the large intestine in about 13 per cent of all cases, of which the majority are found in the cecum. If no perforation be found in the ileum, cecum, or appendix, the next most likely point is the sigmoid flexure. Hawkins, in the London Lancet, in 1893, reported seventy-seven cases of perforation, sixty-one of which were in the ileum, three in the cecum, three in the appendix, two in the ascending colon, one in the transverse colon, and seven in the descending colon, five of which were in the sigmoid flexure. Fitz, out of 167 cases, reported 136 in the ileum, twenty in the colon, five in the appendix, four in Meckel's diverticulum, and two in the jejunum.

Fortunately for the patient and also for the surgeon, if operation is decided upon, there is usually but a single point through which the intestinal contents escape, but sometimes more are found. Of the 167 cases of Fitz, nineteen had two perforations, one had four, three had five, four had several, and one reported by Lebert in 1867 had twenty-five, and another reported by Hoffman in 1869 had thirty.

If the perforation result from the ulceration of a single follicle it is apt to be round and small; if from the rupture of a Peyer's patch it may be oval or round, and is much larger than that of a single follicle and may involve half the circumference of the bowel. Sometimes the opening is total and clean cut, while at others threads of tissues partly close it. Usually there is a considerable area around the perforation that has been greatly thinned, which is of great importance from an operative point of view, as the greater the area of thinning the greater the subsequent danger of obstruction.

The symptoms which occur before perforation may be of some help, but these in some cases only render the diagnosis more difficult. At times the perforation is preceded by a number of ill-defined symptoms, such as colicky pains, increased abdominal tension, borborgymi, and diarrhea. In twenty-three cases at Johns Hopkins Hospital, sixteen, or 70 per cent, had diarrhea at the time of the perforation, which is very remarkable considering that out of 829 cases only 19 per cent had diarrhea during the entire course of the disease. Intestinal hemorrhage is sometimes an indication of threatening perforation, but it is not to be relied upon as it occurs in only about 20 per cent of the cases. All cases with suspicious symptoms should be carefully watched and any increase in intestinal symptoms should suggest the need of surgical assistance. In the majority of cases the sudden onset is the best help in the diagnosis, but in a patient who has been having abdominal symptoms perforation may produce little change, and not until peritonitis has developed, may the physician's suspicions be aroused. Again, the presence of suspicious abdominal symptoms, such as pain, tenderness, and increased distension, occurs so often unassociated with this condition that these can not be taken as a positive sign of threatening perforation, but, at the same time, they should put the physician on his guard.

Much stress, in the last few years, has been laid on the presence of an increasing leucocytosis in the diagnosis of threatening perforation, but this is not practical for the general practitioner, as it is too slow on account of the necessity of several blood examinations being made and valuable time and the benefit of early operation are thus lost. Cabot says: "An increasing leucocytosis to be of any diagnostic value must be relatively steady." However, if a frequent blood count is made from the beginning of the disease, an increase in the number of leucocytes should suggest a threatening perforation.

Of the symptoms of the perforation one stands out alone, and that is the sudden onset of severe pain, which occurs, according to Fitz, in about 75 per cent of all cases. The patient complains of a sudden, stabbing pain, and, in some cases, an actual sense of laceration. Some patients can state definitely when the perforation occurred. The pain, usually intense, is most frequently referred to the right hypogastric or umbilical region, but this does not give any definite knowledge as to the location of the lesion. The other symptoms following the perforation depend upon or are, at least, influenced by certain factors: First, the position of the perforation; secondly, the organisms escaping into the abdominal cavity; and thirdly, the general condition of the patient.

In cases in which the pain does not come on suddenly, the perforation is soon followed by rapidly increasing abdominal pain. With the pain, and sometimes preceding it, there occur retching and vomiting of the gastric contents, soon followed by bilious material, and it not rarely acquires a fecal character, so that the condition might suggest obstruction. The distension of the abdomen now increases until, at times, the skin appears smooth and shiny, and, the distension increasing, the respiratory movements are greatly interfered with and become shallow and painful. The bowels usually become constipated, and at times the stool contains blood. Flatus is also passed with difficulty and sometimes not at all.

The general condition of the patient changes with the local manifestations. The features become drawn and present an anxious, distressed appearance. The extremities become livid and cold; the face and body are often covered with a cold sweat. The pulse soon becomes small and irregular until it can scarcely be felt at the wrist. In a few cases there is very little change in the pulse until the end is near, when it suddenly collapses. When peritonitis is present the temperature rises slightly, but it is only toward the end that a rapid elevation is noted. More or less frequently an abrupt decline of temperature to far below normal occurs, and persists until death. In the worst cases, those in which the perforations are large and the intestinal contents are rapidly poured into the peritoneal cavity, the above symptoms appear at once and collapse develops abruptly, the pulse becomes almost imperceptible in a few hours, and the temperature falls with equal rapidity. Oftentimes there is no distension and pain is absent, which greatly increases the difficulty of diagnosis.

When the peritonitis develops less rapidly the patient may recover from the initial shock. It is only rarely that it becomes localized, but usually extends until a general septic peritonitis has developed. As a rule the patient seldom lives longer than the fourth day. More protracted cases may occur in which, on account of the smallness of the opening, only small amounts of the intestinal contents escape, and temporary adhesions are formed which prevent the diffusion of the material. In such cases one or more pockets of pus may be formed, and, unless the patient is relieved by surgical interference, death ensues from exhaustion in eight to twelve days.

The early positive diagnosis of intestinal perforation is exceedingly difficult, but considering the promising results that have been accomplished by surgical means, and that since such good results depend almost entirely upon an early diagnosis, it is desirable that the physician recognize the symptoms, particularly those of onset. The physician should be very careful of the use of opium in this condition, as it is liable to mask the symptoms and prevent a diagnosis until peritonitis has developed and the benefit of early operation lost. The symptoms are at times so obscure that it is impossible to definitely recognize the condition. No symptom is found constant in all cases, but no significance should be attached to the absence of any one symptom. The occurrence of symptoms is important, but their absence is not. Osler says: "One has only to see a few cases of perforation, or to study their histories, to appreciate the fact that there is no regularity in the symptoms and that no symptom or group of symptoms is pathognomonic." Of the early symptoms sudden, severe, abdominal pain, soon becoming intermittent, is the most characteristic. When sudden, severe pain develops in the course of an attack of typhoid fever, a careful examination of the patient should be made and perforation looked for. Almost simultaneously with the pain, or immediately following it, are tenderness and rigidity of the abdominal muscles either in the right hypogastric region or around the umbilicus, and at the same time there is a limitation of the abdominal respiratory movements. When the above symptoms present themselves during the course of the disease, our suspicions should be aroused and especially if accompanied by a sudden fall of temperature, vomiting, or increasing abdominal distension. As the risk of exploratory operation in these cases is very slight, no case should be allowed to go beyond the limits of recovery without an operation. Stewart says: "The occurence of any of the above symptoms should make us suspicious, and suspicion should, in most cases, be synonymous with exploration."

But there are other causes for typhoid peritonitis besides perforation, such as rupture of the mesenteric glands, rupture of abscesses in the abdominal walls, rupture of the gall-bladder, rupture of the spleen, and rupture of abscesses of the liver. The differential diagnosis from these conditions is not particularly essential, as the treatment should practically be the same. Fitz has said: "Since perforation of the intestine in typhoid may take place without any suggestive symptoms, and since suggestive, even so-called characteristic, symptoms may occur without perforation having taken place, it is readily seen that a positive diagnosis is exceedingly difficult and at times impossible."

Out of 275 cases presenting suspicious symptoms observed by McCrae and Mitchell at Johns Hopkins Hospital, there were performed eight operations for perforation, two exploratory operations in which no perforations were found, and eleven suspicious cases which were not operated on. Of these eleven cases two died, but no perforation was found at necropsy.

The result of perforation is, in a few cases, a localized abscess similar to a localized abscess which follows perforative appendicitis, but, in the majority of cases, there are no such adhesions as take place in appendicitis and a generalized suppurative peritonitis soon follows the perforation.

The prognosis in cases of perforation is exceedingly grave. The severity of the original disease influences the prognosis. In cases which are early recognized and surgical interference at once instituted, from 20 to 25 per cent recover, while in those not operated on not more than 5 per cent get well. When the constitutional depression is severe, the prognosis is exceedingly bad, and even in the mildest cases the prognosis is grave. Cases of fully established general peritonitis are, almost without exception, fatal under any treatment. The prognosis, if surgical interference is instituted early, is at least encouraging. Up to the year 1899, Keen had collected 158 cases operated on, of which 23.5 per cent recovered, and of sixteen cases operated on at Johns Hopkins Hospital in the last few years, six recovered, a percentage of 37.5.

The treatment of typhoid perforation may be summed up in one word, laparotomy, although the dangers of surgical interference are unquestionably very great. On account of typhoid fever being one of our most common diseases, more especially in the larger cities, the treatment of perforation is of great importance. The interest in this subject will continue, not because of its frequency, but because of the exceedingly grave change it produces in the course of the disease and the certainty of a fatal termination in almost every case unless surgical interference is instituted at once. Keen, who was one of the first to point out the urgent need of an early diagnosis and surgical interference, must be credited with the recent interest that has been taken on this subject. Wilson, in the Philadelphia Medical Times, December, 1886, said: "Granted that the chances of a successful issue are heavily against you; that the patient is in the midst or at the end of a long sickness; that his tissues are in the worst state to stand the injuries from the knife; that the lesions of the gut may be very extensive; that the vital forces are at the lowest ebb,—no one has yet hesitated to perform a tracheotomy in the laryngeal complications of enteric fever, which require it to save life. The operative treatment of purulent peritonitis has been performed many times successfully by the gynecologists in conditions less promising. In point of fact, the objections that may be urged against laparotomy in intestinal perforation in enteric fever, are no more forcible than those which would have been used at first against the same operation in gun-shot wounds of the abdomen. Unfortunately, this question is not to be settled by experiments upon animals. The investigation must be made upon the human subject, where courage to perform it will come from the knowledge that the only alternative is the patient's death."

Fitz says: "The similarity of the symptoms of perforation of the bowel and those of appendicitis is striking. The symptoms are not merely similar; they are actually identical, even to the usual localization of the consequent peritonitis in the right iliac fossa." Commenting on which Abbe says: "This lucid statement of Fitz must appeal to every observer of appendicitis cases as true to the letter. Why one class of cases should be left to die while we operate on all appendicitis cases, when perforation can be recognized, except when the patient is beyond hope, does not appear." Cushing says: "If suspicious of a perforation, one should not wait for an exact diagnosis and for peritonitis to reach a pronounced degree; but, on the contrary, one should immediately proceed to an exploratory operation."

The time of operation should be wisely chosen. The operation should not be performed until the patient has recovered from the primary shock, if the patient suffers from the shock. As soon as the primary shock has been recovered from, the operation should be performed, as every hour then counts, since the infection becomes more diffuse and more intense.

The only contra-indication against operation is when all the conditions, both general and local, forbid all hope of recovery.

The usual operation, that has been performed for the closure of the perforation, has been by a purse-string suture reinforced by two or three rows of interrupted mattrass sutures as advocated by Halstead.

A new suggestion has lately been advanced by Escher, of the Trieste General Hospital, in Austria, who found that of a number of cases of perforation treated by enterostomy 40 per cent recover. This is a striking contrast to the usual 20 or 25 per cent of recoveries treated by the usual suture method. Of four cases treated by Escher by this method only one died, which led him to adopt this method as a routine. He believes that this is the method of choice, because much time is saved and threatened symptoms of paralysis of the ileum and distension caused by such paralysis are avoided. He advises that the suture method be used only where perforation occurs late in the disease, rather than in those cases in which the perforation occurring earlier requires the patient not only to recover from the operation but to have strength enough to carry him through the fever, which has not as yet subsided. He also advises the suture method to be used in cases in which no distension is present and when the operation can be done early.

CASES

CASE I.—For the history of this case I am indebted to Dr. H. A. Tarbell, of Watertown, at whose invitation I was present at the operation which was performed. A complete history of this case could not be obtained as Dr. Tarbell had seen the patient only two or three times before he was brought to the hospital for operation. The patient, aged twelve years, was taken sick about January 28, 1902, apparently only slightly indisposed with very mild febrile symptoms until February 2d, when he complained of some decided pain over the epigastric region. Temperature was about 101.5°.

On February 4th Dr. Tarbell was called, as the boy was complaining of the pain being more severe, and it had, by this time, extended all over the abdomen. About this time nausea and vomiting began to be marked, and obstinate constipation also developed. This train of symptoms increased in severity until February 6th, when the condition of the patient became so critical that operation was advised, and he was removed to Watertown Hospital. The striking features of this case were that at no time did the temperature get higher than 101.5°, and until the last two or three days there was very little tenderness or distension.

The diagnosis of the case was acute intestinal obstruction, but the exact cause of the obstruction could not be determined.

Dr. James E. Moore, of Minneapolis, being present at the Hosiptal, an operation was decided upon after informing the boy's parents that death was certain unless the operation was performed. The parents were not urged to have the operation performed, but were told that it was the only chance, and that with an operation the chances were not very favorable.

When the abdominal incision was made, the true cause of the trouble became apparent. Three typical typhoid perforations were found in the lower part of the ileum, about two or three feet above the ileocecal valve, and besides the perforations a number of ulcerated patches, almost at the point of perforation, were found. The ulcerated patches that had perforated had formed slight adhesions to the intestines lying next, and in consequence there was no leaking of the intestinal contents into the abdominal cavity.

The perforations were repaired with Lambert sutures and drainage left in the wound, but no hope was entertained for his recovery. The boy rallied nicely from the operation and for about eight or nine hours seemed to be holding his own, but about three o'clock in the morning began to grow worse, and sank rapidly until death ensued about six o'clock.

CASE 2.—Mrs. B——, age 28. I was called in consultation with the attending physician on December 4, 1902, and got the following history:

The patient had complained of not feeling well for two or three weeks, but did not feel bad enough to consult a physician. She had had considerable diarrhea during these three weeks, which was at times accompanied with some pain. On the evening of November 24, 1902, the patient had had a sudden attack of severe abdominal pain, which kept on increasing in severity in spite of everything that was done, until relieved by a hypodermic of morphine given by the attending physician, who had been sent for in the meantime. During the night the bowels moved freely and the stools contained some blood. The next day the pain was still severe, but more intermittent and colicky in nature, and the patient complained of tenderness in the right iliac fossa. During the day the patient vomited a couple of times but the vomiting was easily controlled. During the next few days, the tenderness increased, and the abdomen became distended. The vomiting was more frequent and contained considerable bile.

When I first saw the patient on the evening of December 4, 1902, she had a very anxious, distressed appearance, and complained of feeling cold. She said her bowels had a feeling as if they wanted to move, but whenever she tried nothing passed. On further questioning I found that the bowels had not moved since the night of November 24th, and during the last two or three days no flatus had passed. On examination the pulse was 135, temperature 97°, respirations 40, tongue covered with a heavy brown coat, sordes on the teeth, abdomen very much distended and tender, more so in the right iliac fossa, and abdominal muscles rigid. She had just vomited, and the vomit contained considerable fecal matter.

My diagnosis was partial obstruction. I suggested the use of high enemas for the obstruction, and we injected about a pint of olive oil, and followed it in two hours by soap-suds. From these injections we got a small amount of feces in the form of scybalæ, but no gas passed. The patient's condition was such that I could hold out no hope for her recovery, and deemed operation out of the question.

I advised the high enema to be continued twice a day and prescribed bismuth subnitrate, grains 5, and pulv. ipecac, grain 1/10, every hour to try to control the vomiting, and ordered hot applications to the abdomen. I saw the patient again the next morning with her attending physician, and she appeared about the same, but had not vomited any since the night before, and had rested comparatively easy. On using the high rectal injections nothing was passed.

During the day the patient was fairly comfortable, but during the night she began to grow weaker. Towards morning she rallied again, and was comparatively bright until about noon when she began to sink. When I arrived, about 4 o'clock, she was in a semicomatose condition, and died a couple of hours later.

At the post-mortem, which the patient had requested, the bowels were found to be very dark, and fifteen inches above the ileocecal valve a perforation, about the size of a dime, was found. The intestines were quite firmly adherent, and an abscess was found which contained about a pint of pus and fecal material.

CASE 3.—Mr. A——, age 51. The patient was taken suddenly ill with severe abdominal pain during the night of January 1, 1903.

Personal history: He had had a severe attack of influenza in 1890, which lasted about three months, and from the effects of which he never completely recovered. He had had attacks of stomach and bowel trouble two or three times a year since then, in which he would complain of severe abdominal pain of a colicky nature, accompanied by diarrhea and vomiting of dark, almost inky-looking material. He complained of not having felt well all winter, but had been able to attend to his work, and consequently thought there was not much the matter, and had consulted no one. When I was first called to see him on the afternoon of January 2d, I thought it was one of his old attacks and that he would be all right in a day or two. I was sent for again the next day, January 3d, as the patient was no better. He had rested some during the night, but had had considerable pain, and his bowels had not moved although I had given him a cathartic the day before. On examination, the pulse was 70, temperature 98°, abdomen tender, especially in the right iliac region and also about two inches above the umbilicus. Applied turpentine stupes, and gave enema, after which the bowels moved. The patient vomited some during the day.

January 4th. Pulse 74; temperature 97½°, pain not so steady, but more of a colicky nature; abdomen slightly tympanitic; bowels moved some after giving an enema; vomiting was not so frequent. The treatment was continued.

January 5th. Patient rested fairly well during the night; pulse about the same; temperature 97½°; pain about the same; tenderness and distension more noticeable. Gave a couple of enemata, but they had no effect, so used high rectal injections, and repeated again in the evening before the bowels moved. No gas passed.

Diagnosis: Obstruction.

January 6th. Patient considerably weaker; pulse 80; temperature 97°; tenderness and distension increasing. The high injections were continued, but had little effect. Had consultation, and decided to continue treatment.

January 7th. Patient was becoming anxious, as the high injections were having no effect and there was no gas passing. Had another consultation in the evening. Pulse 80, rather small; temperature 96½°; abdomen considerably distended and very tender.

January 8th. Patient about the same.

January 9th. Pulse 88; temperature 96°; patient weak and anxious. Had another consultation, and dignosed obstruction; decided on operation. Removed him to Watertown Hospital, and when he arrived there his temperature was 99.4°, which was the first time it had been up to normal since he was taken sick; pulse was 100 and small; during the night, some gas passed the bowels.

January 10th. Patient was prepared for operation, and Dr. James E. Moore, of Minneapolis, who had been sent for, arrived, and upon examination diagnosed it partial obstruction, and held out very little hope. Dr. Moore performed a laparotomy, assisted by Dr. Campbell, of Watertown, and myself. On making incision the intestines were found to be dark colored and distended, and in the lower part of the ileum, about a foot and one-half above the ileocecal valve, a typical typhoid perforation, about half the size of a dime, was found. This was sutured with two rows of interrupted mattrass sutures. On further exploration several ulcerated patches were found, but no further perforation. A mass was also felt in the right iliac fossa, which, on examination, was found to be an abscess walled off from the peritoneal cavity by firmly adherent intestines. The abscess was wiped out, and the adherent intestines separated. Drainage was left in the wound, and the patient made an uneventful recovery, the temperature never getting above 99°. During the night and the next day the distension entirely disappeared, and on the third day the patient had a natural passage.

A METHOD OF EXAMINING THE PULMONARY APEX

Auld has devised a method of examining the pulmonary apex, which he thinks yields trustworthy results in the very earliest stage of phthisis. The apices of the lungs extend on an average from 1 inch to 1½ inches above the clavicles and in some cases 2 inches, the right apex being a shade higher than the left. The method consists in outlining the resonant area above the clavicles. The key to the detection of incipient diseases in the apex is familiarity with the physical signs yielded in healtn. With deep inspiration, the upper area of resonance is a guarter of an inch higher than during forcible expiration. If the pulmonary apices be examined in this comparative manner, and deviation from the normal standard, any evident disproportion, either in respect of the characters common to both sides, may be justly regarded as a ground for suspicion. The early indications of abnormalities are (1) failure of the upper line of resonance on one or the other side to ascend during a deep inspiration; (2) a lowering of the upper line of resonance in whole or in part as compared with that of the opposite side; and (3) indistinct definition of the upper or outer line of resonance.—London Lancet.

DRUG TREATMENT FOR TUBERCULOSIS*

By Lester W. Day, M. D.

MINNEAPOLIS

No one will admit to-day that there is a specific drug treatment for tuberculosis, but this is far from saying that we have no useful drugs. To-day as never before the attitude of the medical profession toward the "white plague" is that of hope, for already the ratio of cures has greatly increased and is increasing yearly. Thousands of physicians are absorbed in a search for a cure, and success must attend their combined efforts.

The purpose of such evenings as this is to bring in review the results of these various investigations, in order that we may select from the mass that which seems good. If we then utilize in our private practice this new knowledge, and keep an accurate record of our cases, we add materially to the total sum of knowledge.

All are agreed that the ideal treatment of tuberculosis consists in a happy combination of climate, diet, exercise, rest, and medicine. To the latter I will now direct your attention for a brief summary discussing only those that appear the most helpful. For years a specific was sought for in the inhalations of various antiseptic drugs, such as carbolic acid, sodium benzoate, and iodoform. Each in turn was enthusiastically recommended and then discarded. More recently the inhalation of pure oxygen, also formaldehyde, has been brought to our attention. Trudeau and others after many experiments have shown that these antiseptic substances do not penetrate sufficiently into the diseased areas, and hence their failure. But, unquestionably, they are a help in the beginning cases. Oxygen should not be used where there is a tendency to hemorrhage, as it is extremely irritating.

Internally arsenic pills, gr. one-twentieth, 3 or 4 times a day has been much lauded, but it has little influence except where there is amenia, etc., in the earlier stages. Sodium cacodylate has replaced it. Next came creasote, and in doses of from 15 to 30 m. in 24 hours it has proven very useful. Everyone is familiar with the wide discussion of this drug, and as an illustration of how widely used it is I will quote Dr. J. A. Burroughs whose records show 2183 cases collected during the past 19 years, and of these 1315 had previously taken or at the time of his examination were taking creasote. The drug is useful because it is eliminated by the lungs and kidneys, and also because it is a tonic. But it is extremely disagreeable to take, and is also irritating to the stomach. It has been supplanted largely by guaiacol, the essential principle, given as guaiacol carbonate in powders. The dose should be gradually increased to 35 or 40 grs. a day. The drug has little of the disagreeable taste and odor of creasote, but is much more expensive. Guaiacol is of especial advantage where there is purulent expectoration.

Landerer, chief of the Institute of Knihenbad in the Black Forest, published his first monograph upon the use of sodium cinnamate, or hetol, in 1892. Only recently has it received the attention that it deserves.

The principle upon which the treatment is based is as follows: So long as inflammatory changes in a lung do not progress beyond the stage of hyperemia or serous exudation complete restitution is possible; but where necrosis has occurred the most favorable conclusion is the formation of a scar. In tuberculosis in the majority of instances necrosis has occurred when we first see the patient, and our object is to produce a scarification. But it is well known that tubercular areas have comparatively little tendency to scarify, but rather to break down and form chronic abscesses, fistulous ulcerations, cavities, etc. Landerer attributes this characteristic to the very moderate inflammatory reaction in and about tuberculous areas, and he points in confirmation of his views to the marked scarcity of blood-vessels in them. Hence he conceived the idea of provoking a more active inflammation about the areas. Foreign particles injected into the blood are taken up by the leucocytes and deposited by preference in the regions where an inflammation is present. While experimenting upon rabbits with an emulsion of balsam of Peru he found that after an intravenous injection of the balsam there was an active leucocytosis, which reached its height in from three to eight hours. These leucocytes containing fine globules of balsam were found dilating and crowding the capillaries about the diseased areas. In the course of a few weeks, and after repeated injections, he found granulation tissue springing up and extending into the substance of the tubercular area gradually absorbing and replacing the necrotic material of which it is composed with scar tissue. Cinnamic acid is the efficient constituent of balsam of Peru, and the sodium salt, otherwise named hetol, is the substance used for the intravenous injections. The injections are entirely harmless, and even excessive doses cause no discoverable injury to any organ. However, when given in excess the patients complain of great drowsiness.

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*Read before the Minneapolis Medical Club, April 20, 1903.

Whether the benefit is due to the leucocytes or, as Landerer suggests, hetol acts on tuberculous processes by forming innoxious compounds with the toxines of the tubercle-baccillus, has not been determined. Landerer disclaims any specific action for the drug, and is of the opinion that purely tubercular infections are the only ones benefited. He begins with a dose of from 1-100 to 1-50 of a grain, and gradually increases the dose up to 1-4 or 1-3 of a grain. One injection should be given every other day. His good results have been verified by many competent observers.

Henry Harper, in a series of papers appearing in the Lancet (London), in 1901 and 1902, points out the great benefits derived from the ingestion of large doses of pure urea into the system. He was led to experiment along this line by the consideration of the fact that families of a marked gouty tendencies rarely if ever had tuberculosis; that an attack of gout in the midst of tuberculosis caused the disease to stand in abeyance; that tubercular patients were rarely meat-eaters; and that the tubercle-bacillus would not grow in a medium containing nitrogen. Cautiously he began to experiment. He found his patients would take 30, 40, 60 grains of urea 3 or 4 times a day without injury, and, moreover, without increasing their nitrogenous excretions or secretions. In other words the urea is utilized in the system. Moreover, the patients rapidly gained in weight, and there was a rapid amelioration of their general condition. Personally, I have followed his plan during the past year with very satisfactory results in a number of cases.

It is a suggestive fact that during pregnancy when the woman's system contains an excess of the products of catabolism tubercular processes are usually held in abeyance. The explanation advanced is that these substances act as an antitoxine. Now, are there other antitoxines? Richet and Hericourt have proven that the juice of raw meat acts, not as a strengthening agent, but as an antitoxine. At Cannes the patients who are able eat as much as they can of twenty-eight ounces of mashed, raw meat; the remainder is pressed, and they drink the juice. This diet has many advocates, but it is expensive, and is, moreover, supported with difficulty by many patients.

The medical literature from 1890 to1895 shows that the blood of certain animals confers on other animals immunity from tuberculosis, and may even cure this disease. Berlin and Picq have introduced a serum (Goat's serum) which some at least of the French physicians believe to be tonic, antitoxic, and bactericidal. The treatment is innocuous and easily applied, 2 c. c. being given every other day hypodermically, or 10 c. c. if given by mouth.

There are countless other drugs that have been and are being tried whose merits and demerits I have not taken up. The failure of any one plan or combination of treatments to cure tuberculosis is easily understood when we consider the various modes of attack of tuberculosis. Most of the cases reported cured are the early cases, that is, the cases coming under treatment before the action of the t. b. has been enhanced by that of the staphylococcus and the streptococcus, also before the body has lost its power of resistance.

We should be careful in trying the so-called specific drugs, not to lose sight of our general symptomatic line of treatment.

ACUTE INFLAMMATORY GLAUCOMA; DIAGNOSIS AND TREATMENT; REPORT OF CASE*

By E. F. Reamer, M. D.

MITCHELL, S. D.

In presenting this subject for your consideration to-day I am not doing it with the idea of giving anything new or original, but simply to call your attention to a disease that the average general practitioner knows very little about. That there are eyes lost in South Dakota every year from the disease, I think no one will question. To be able to recognize and properly dignose the condition on first presentation, and early, means much to our patients, many times the saving of an eye when two or three days' delay may mean the loss of that organ.

The etiology of glaucoma I shall not discuss, but shall content myself with saying that as far as the direct cause is concerned, it is a stopping, or at least a lessening, of the circulation between the anterior and posterior parts of the eye. "A typical acute glaucoma is an inflammatory disease in the same sense that a strangulated hernia is so, but not otherwise; it exhibits an acute obstruction of the circulation, which can be cut short by removal of the pressure and in no other way." Then increase of tension is the *one cause*, but what is the causal factor lying behind this, or *causing* the increase of tension, authorities do not agree upon. Just how much influence, heredity, rheumatism, gout, syphilis, prolonged mental strain, size of the eye-ball, disorders of the respiratory tract and vascular and nervous systems, have upon the disease I do not know.

Glaucoma has been known from antiquity—the inflammatory type—because the non-inflammatory can be discovered chiefly by the ophthalmoscope, and that instrument was unknown until the time of Helmholz. Simple glaucoma was lumped with other eye diseases whose origin was obscure and called amaurosis, a term not used to-day by the up-to-date man, but still found in some of our medical books. Mackenzie, and Von Graefe, later, were the first to recognize the most important symptom,—increased ocular tension,—which led the latter, in 1856, to perform iridectomy for its relief, one of the most pregnant discoveries in ophthalmology, and one which will make his name forever known to students of medicine. We have only to remember that formerly every case of glaucoma inevitably led to blindness, and that now, thanks to iridectomy, the majority of glaucomatous patients can be cured. I say can be cured, but say it qualifiedly, for many cases are not cured when operated upon, but those cases are largely the ones which are seen too late, or are treated with myotics during the prodromal stage till excavation and atrophy of the papilla of the optic nerve have occurred, with permanent impairment to sight.

Symptoms and Diagnosis.—In uncomplicated cases the diagnosis is not hard if one will keep in mind a few cardinal signs. First and most important is increased ocular tension. When you find an eye which is increased in tension and has a dilated immovable pupil, there is pretty conclusive evidence of glaucoma. Dilatation and immovability of pupil are found in no other acute inflammatory eye disease. Added to this we will find some of the following conditions: great pain in the affected eye, side of face, head and teeth. In chronic glaucoma the pressure rise being gradual, the tunics have time to adapt themselves to the conditions, and pain may be entirely absent, but in acute glaucoma the pain is usually proportionate to the vascular disturbance. The sensitive ciliary processes being swollen and squeezed by the congestion, pain is the result. Cloudiness of the cornea is a prominent symptom, if the process has continued for some time. At first the cloudiness may appear and disappear suddenly as the tension is raised or lowered, but after a few attacks, or several days or weeks of an acute attack, the infiltration will become marked and continued. This cloudiness is usually enough to prevent any ophthalmoscopic examination of the fundus. This will naturally preclude determining whether the disk is excavated. But this does not matter particularly, for in acute cases, when seen early, there is no cupping of the disk.

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*Read before the South Dakota Medical Association, May 27, 1913.

VISION.—The amount of vision remaining and limitation of the field will depend largely upon the length of time increased tension and inflammation have been present, and the severity of each. Three days to a week will usually produce such changes that all known methods will restore not more than a fair amount of sight.

Vomiting, continued and severe, with great prostration is present in many cases, and here is a symptom when present that is often misleading. When the physician is called the patient will complain of the nausea and vomiting, and say but little of the eye. Naturally one would think of billiousness or indigestion, and so neglect the real cause of the stomach disturbance at the expense of the eye. The redness of the eye and swelling of lids and conjunctiva would be attributed to a cold or neuralgia. The cornea is less sensitive than normal, the anterior chamber of the eye shallower, the eye pushed forward, eyelids congested and swollen. In a person over forty years of age this picture is one not easily forgotten, if seen in a characteristic case of acute inflammatory glaucoma.

TREATMENT.—The treatment divides itself into two parts; medicinal, or palliative, and surgical. First as to the use of atropine or other mydriatic, nearly all writers speak of the danger of precipitating or even causing an attack of glaucoma in elderly people by the use of atropine. Dr. H. M. Starkey, of Chicago, in an able article, published recently in the Journal of the American Medical Association, finds the consensus of opinion by letters from many oculists all over the country, to be *care in its use,* but he does not include that a mydriatic, *per se,* will cause glaucoma. But it is a dangerous drug to use when inflammation exists in an eye of an elderly person, especially with dilated pupils, till one is sure that there are distinct indications for its use. The same is true of scopolamin, homatropin, or other dilators, but in a less degree. Recently massage of the eyeballs has been practiced by a few writers. The patient being directed to look downward, the surgeon places his first two fingers upon the eyeball, and by rotary movements making deep pressure the blood is driven back and the tension can be materially reduced. After a little training the patient can be taught to massage his own eye. Theoretically this is all right, but practically does no permanent good, for within a few hours the eye is as hard as ever. After examining a case carefully and fully concluding that you have to deal with an eye with increased tension and that glaucoma is present, sulphate or salicylate of eserin, in from one-half to one grain to the ounce strength, should be instilled into the eye, and the instillation repeated at frequent intervals, till the time an iridectomy can be made. Sometimes eserin will increase the pain in the head by producing a supra-orbital neuralgia. If it does, a three or four per cent solution of cocain can be added to the eserin, which will relieve the pain and do no harm. Should the patient be unable to sleep, hypodermics of morphine should be given sufficient to produce sleep. Under medicinal treatment the acute attack will sometimes pass off, but if no marked improvement is produced within a short time by the use of these remedies, an iridectomy is indicated without delay. Surgically,—iridectomy is the remedy *par excellence.* To get the best results the operation must be done early. While it is true in some cases we get very good results two or three weeks after the beginning of the attack there is no question but the best results are always shown when done during the prodromal stage or within a day or two from the outbreak of the acute symptoms. Like other surgical operations, iridectomy cannot restore lost parts nor lost function, for if the vision be impaired by atrophy of the papilla of the optic nerve or the field of vision limited by anatomical changes, nothing restores it.

OPERATION.—The operation of iridectomy in the normal eye is not hard to do, but in an eye which has been inflamed for a week or more, with a very shallow anterior chamber and a widely dilated pupil, the parts swollen and painful, it is one of the most difficult operations the ophthalmic surgeon has to do. If the pupil will yield to eserin, and there is much chemosis, sometimes it is better to wait for a few days. A general anesthetic is best given but if your patient is one with a pretty good will-power and not particularly nervous; or if there be any indications for not using it, the operation can be successfully done under cocain, with adrenalin to control hemorrhage. The coloboma should lie upward, so that, as in all operations of iridectomy, the upper lid partially covers it. In my judgment the narrow cataract-knife is the best to make the incision with. It is entered about one millimeter behind the sclerocorneal margin, carried across to the opposite side, and emerges as nearly as possible the same distance behind the margin of the cornea. The blade should be turned slightly outward in passing through, and in cutting outward to avoid catching the iris, which is crowded forward, sometimes very much. The flap should include at least one-fourth of the cornea, so that from a fifth to a quarter of the iris can be removed. After the primary incision is made, the small iris forceps is entered, the iris seized and drawn forward out of the wound and cut off close to the lips of the wound by two or more strokes of the scissors. Should the ends of the iris remain in the wound a blunt probe or spatula must be carefully entered, and they tucked back into their normal position. It sometimes happens that the iris is torn or the lens capsule wounded by the knife or scissors. Of course the greatest care must be taken to guard against doing this, for should the capsule be bruised enough to bring on swelling of the lens and cataract formation grave consequences are to be feared.

Hemorrhage into the anterior chamber occurs frequently, but does not interfere with healing and will be absorbed in time.

The after-treatment consists in daily cleansing the eye with a boric acid solution, and instilling a drop of atropin. The eye should be kept bandaged for several days; the other eye may be or not. Should there be any tendency to glaucoma in the other eye a weak eserin solution should be used in it once daily. If the operated eye does not resume its normal tension after a week's time a weak eserin solution is best used at night for some time, and the eye watched.

Case.—Mrs. L. H. M——, farmer's wife, age 44. Some fourteen years ago she had a severe inflammation of the left eye, and several times since it has been inflamed, but not so severely as now. On November 27, 1902, she read a long time, and the eye seemed to pain her afterwards and continue to, becoming worse and worse till the whole eye was red and inflamed, and the pain so severe that she could scarcely sleep at all.

On December 17th she came to my office. The lids were edematous and eye bulging; tension increased to plus 2 or 3, and somewhat in the right eye; iris discolored and a picture of inflammatory glaucoma. I dilated the pupil with homatropin and tried to see fundus, but could not make out anything. The vitreous was cloudy and cornea hazy with two large patches of infiltration on the inner side of the pupil. I prescribed eserin (1 gr. to the oz.) and hot applications. The bowels had been regular right along, but I gave a laxative and sodii salicylate et bicarb. sodii internally.

December 19th the eye had improved a little and was painful until December 24th when I did a large upward iridectomy under 10 per cent cocaine anesthesia, Drs. Freyberg and Bobb assisting. The patient was put in bed on her back and both eyes bandaged lightly. In the afternoon and evening, the patient complained of a good deal of pain, but next day said the eye hurt very little, although she did complain of her back and shoulders.

December 27th, 28th and 29th the eye continued about the same, but some hemorrhage showed at site of wound and below in anterior chamber, a little more than during the operation. Patient can distinguish shadows about the same as before operating.

January 1st patient continues to improve and has been up to-day.

January 4th, there seemed to have been some hemorrhage during the night into the anterior chamber; vision was much reduced from what it had been the day before. I advised more quiet and local application of ice.

January 5th. Eye much better again to-day. and cornea clearer; hemorrhage disappearing. No pain except when open to light.

January 8th. Patient says she slept best of any night yet; no pain. Counts fingers, and can distinguish objects across the room.

January 14th. Patient came to office to-day; eye improving; vision with plus 2 cylinder, axis 180, equal 20/100ths.

February 21st. Eye continues to improve; no pain, but patient sees black spots before the eye; cannot see the fundus with ophthalmoscope.

The improvement continued both in vision and appearance till April 1st, when I fitted her with the proper distance glasses, the left eye taking a minus one sph. over a cylinder of minus three, axis 90. This brought her vision up to twenty-fiftieths. There was some astigmatism and hypermetropia in the right eye, which was corrected by a plus fifty sph. over a plus one and a quarter cylinder, axis 90, making vision in the right eye 20/15.

The eye has continued well until now, five months after operation.

WHITE SWELLING OF THE KNEE*

By James E. Moore, M. D.

Clinical Professor of Surgery, University of Minnesota

MINNEAPOLIS

This is a typical case of tuberculosis of the knee, or what is known in common parlance as "white swelling" of the knee. The patient, whom I have never seen until to-day, was sent to me from a distance with the hope that I might be able to perform an excision of the knee, and save her a useful leg; but the disease is so extensive and the patient is so young I told the father that the only operation to be considered is an amputation through the thigh just above the disease.

Observe the peculiar white color of the swollen knee, which is quite characteristic. The joint is flexed to a right angle, and the head of the tibia is subluxated backward. These sinuses are also characteristic. Notice the peculiar pale granulations and the white spots in the center. Nothing but tuberculosis causes this appearance. The location and direction of these sinuses indicate that there is extensive disease of the upper end of the tibia. The disease, which now involves every structure of the joint, doubtless began in the epiphysis of the tibia. In children tubercular joint-disease usually begins in bone and extends to the synovial membrane later, unless prevented by early treatment. If this poor child could have had proper care two years ago she doubtless would have been well, with a good serviceable leg, but she has been out in the country, far from doctors and hospitals, surrounded by ignorance and poverty, and the consequence is that she is crippled for life. I say that she probably would have gotten well under proper care, because you see that she is now in good health and free from pain, although she must have been very ill and suffered a great deal of pain before getting into her present condition. Great skill and elaborate or expensive apparatus were not necessary, for nature accomplishes wonders in these cases when she is given a chance. All that is necessary is to keep the joint at rest. By rest I mean that motion shall not be allowed in the joint, and that it be allowed to carry no weight. Good treatment in this case would have been to apply a plaster-of-Paris bandage from the ankle to the body, and put the patient on crutches with an elevation of three or four inches on the shoe of the well side so that she could not reach the floor with the foot of the diseased side, as she would be prone to do when the pain disappeared. This treatment, applied early and continued for a year and a half, would have cured this case.

Bad as it is, I do not insist that amputation shall be performed. If the child can be taken to an institution where she can have prolonged mechanical treatment, she may still recover with some kind of leg. If she were my child I should have the limb amputated, because a good artificial limb would be very much better than this one can be made, and because the danger of a general tuberculosis would be less, but this father's viewpoint is very different. He thinks that any kind of leg is better than an artificial one, and while he can get treatment through charity, he can not obtain an artificial limb through that source.

An excision of the knee in a ten year old child is bad surgery, because in operating the centers of growth of both the tibia and femur are either removed, or so interfered with, that the limb grows only half as much as the other one, and the consequence is that when the child arrives at maturity it has a very short, weak limb. In an adult matters are reversed: the rest treatment is not nearly so successful, and excision yields most excellent results.

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*Abstract of a Clinical Lecture delivered at the Northwestern Hospital before the Junior Class of the University of Minnesota.

TO BE HEALTHY

Drink water and get typhoid. Drink milk and get tuberculosis. Drink whisky and get the jimjams. Eat soup and get Bright's disease. Eat meat and encourage apoplexy. Eat oysters and acquire toxemia. Eat vegetables and weaken the system. Eat dessert and take to paresis. Smoke cigarettes and die early. Smoke cigars and get catarrh. Drink coffee and obtain nervous prostration. Drink wine and get the gout. In order to be entirely healthy one must eat nothing, drink nothing, smoke nothing, and even before breathing one should see that the air is properly sterilized.—The Lay Press.

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DR. LORENZ' VISIT

The visit of Dr. Lorenz to Minneapolis and St. Paul has been heralded in the newspapers. The unusual enthusiasm which greeted the celebrated Vienna surgeon in the East during his first visit, has spent its force, and his reception is more dignified and professional, free from vaporous criticism, and without needless display.

The physicians of Minnesota will extend a cordial welcome, and will do all in their power to make the distinguished man feel their appreciation of his presence and their tribute to his greatness. His visit will bring a large number of deformed children to the attention of other surgeons, and will give them an opportunity to study his methods and compare the bloodless and the cutting operation. Each has its advocate and adherents. Those who believe their method superior will study the needs of the individual, and then judge as to which operation is adapted to each particular case. Comparisons of this sort are educational. Practical clinics in which demonstrations are made by an expert, are exceedingly valuable to all surgeons. The men who are foremost in their profession are those who observe and practice the methods of others, in order to give their patients the benefit of broad experience.

The time and place in which the clinics will be given will be advertised in the press and medical journals, and an effort will be made to accommodate visiting physicians.

ELECTRIC-BELT EDISON

To see the name *Edison* tacked onto a common place electric belt is unfortunate. Of course, the senior Edison would not countenance such a gross fraud, and it is strange that his son would enter into an unholy alliance to deceive the public, and take the hard-earned money of those who can ill afford to throw their dollars to charlatans.

The specialty company of which Thos. A. Edison, Jr., is the head, is flooding the country with reading advertisements for a "Magno-electric Vitalizer" that will cure rheumatism, locomotor ataxia, consumption and nervous and kidney troubles, and will restore lost functions in the sexual organs. Such an advertisement under the name of Edison will appeal to thousands, and only the few will stop to think that such a write-up on the front page of a large daily is an advertisement paid for at a number of dollars per line. The advertisement is so written as to appear as telegraphed with other important news.

Young Edison says he has been invited to display his apparatus before the medical societies of England, but declines the honor. His modesty says he feels it his duty to stay at home and relieve the suffering people. One might suppose that Thomas, Jr., personally fitted his belts and appliances, and, if absent, some poor consumptive might wander in and not receive proper attention. The apparatus that he so kindly offers to an unsuspecting public is a modified electric belt, and sells for eight or eighteen dollars. The larger price includes wires that run from the head to the heels, and thus keeps the whole body in circuit.

Any man who claims to cure the above-mentioned diseases with a thing of this kind is a fakir, and is defrauding the people whenever he sells a belt.

Physicians should expose these frauds wherever they appear, and the people should be advised to invest like sums in out-of-door pursuits rather than throw it at the feet of Edison.

THE NEW HAVEN COUNTY ANTITUBERCULOSIS SOCIETY

Within the past year a few gentlemen in the State of Connecticut formed an association for the purpose of establishing a sanatorium for curable cases of tuberculosis. The society is now incorporated under the above title, and has purchased an isolated farm of 250 acres, situated on the crest of a long ridge commanding a sweeping view of the surrounding country in all directions. Dr. John P. C. Foster, of New Haven, is the chairman of the committee, and to him belongs the credit for a successful undertaking. The State appropriated a small sum of money for the current expenses of the committee, but withheld any sum for the purchase of the site and buildings. Dr. Foster prepared a paper that the laity could read understandingly, and read it before a company of prominent citizens. The paper was afterward published (Feb. 8, 1903) in the Sunday edition of the New Haven Register.

Following immediately the reading of the paper, $40,000 was subscribed, and since that time $30,000 has been added, making $70,000 in unsolicited subscriptions. One lady gave her check for $3,000 for the erection of a cottage, and like sums poured in upon the committee.

The sanatorium is now assured, and doubtless many more will contribute to the general fund. With a start of this kind the state will feel obliged to add to the sum for further construction and maintenance.

What a suggestion for the people of Minnesota! If the public knew the necessity of the prompt erection of buildings for the *cure* of tuberculosis, perhaps some of our wealthy residents would help a good cause.

The public in general gain their information of the needs of the sick and the cure of disease from the newspapers, and any information which our state committee may desire to promulgate must be through the lay press. The papers are generous in such matters, and will gladly aid the work by frequent articles on the subject. This is practically the only reliable method for appeals for generosity from the people who have means and who would cheerfully give for such a commendable cause.

The meeting of the State Medical Society, June 17, should assume the responsibility for an article designed to educate the people in the suppression of tuberculosis. The article should appear in all of the daily papers, and a direct effort be made to interest the readers and contributors.

The Commission will doubtless have something to report in the selection of a site near Walker. The appropriation of $25,000 by the state legislature will give only a limited number of cheap cottages, beside the selected site. The next legislature, two years from now, may not increase the appropriation sufficiently, and something must be done at once to carry on the work. The LANCET would urge the adoption of the method of the New Haven County Association, and will assist in the publication and promulgation of appeals and reports.

STATE MEDICAL SOCIETY

The meeting of the State Medical Society, June 17-20, promises to be the largest meeting in the history of the society. The reorganization of the county societies for affiliation with the American Medical Association will attract a large number of the members, although the preliminary program has been delayed, and apparently but little effort has been made by the officers to arouse the interests of the medical men by advertising the Sections.

The meetings are to be held in the Council Chamber of the City Hall in St. Paul.

The Entertainment Committee will doubtless do the correct thing, for St. Paul is noted for its hospitality and good fellowship.

DR. P. M. HALL

Dr. P. M. Hall has been health commissioner of Minneapolis throughout an administration that has been proven to have but few clean spots in it; and the slightest charge against any one whose appointment came from the Mayor has naturally been sufficient to class such person with the infamous gang who ran things, but even an indictment from the grand jury against Dr. Hall has not in the least shaken the faith of his friends, or of the general public, in his perfect integrity, and every daily paper in the city has given editorial expression to the belief that Dr. Hall's offence, if he has committed one, has been merely technical.

That is a splendid tribute to a man's good reputation, and the LANCET sincerely hopes, as it firmly believes, no facts can be produced to injure Dr. Hall.

REPORTS OF SOCIETIES

THE MINNEAPOLIS PATHOLOGICAL SOCIETY

ARTHUR T. MANN, M. D., SECRETARY

The April meeting was held at the University Laboratory of Medical Sciences, with Dr. A. W. Abbott in the chair in the absence of Dr. L. B. Wilson, president.

Dr. J. Clark Stewart presented the specimens of the evening, a large series of sections showing the histological changes in epithelioma under *x*-ray treatment. These were shown in lantern projection and under the miscroscopes. The material came from two cases, one an epithelioma of the wrist and the other an epithelioma just back of the ear.

Blocks of tissue were removed from the first case on the second and the eighth day after treatment was begun, and thereafter on each second day until the growth softened and came away. Each block of tissue was cut into four portions, and fixed in different fluids, Hermann's, Mann's, Zenker's and 25 per cent formalin.

Thin paraffin sections were examined unstained from the Hermann's fixative for fat, and others were stained in various ways. Hematoxylin and eosin, hematoxylin and Van Giesen, Weigert's resorcin stain for elastic fibers, Pianese III b. for degenerations, and Plummer's stain for cancer parasite, were used.

The specimens showed a number of changes by these methods, some of which may be tabulated as follows:

1. FATTY DEGENERATION.—This is marked in all sections from all the blocks of tissue. In the early sections it is most marked in the epithlial cells at the periphery of the pearls. The fat occurs in droplets grouped about the nucleus and in many cases in the nucleus itself. Fat exists, however, in a large percentage of the epithlial cells, and this infiltration seems to increase with the number of exposures to the *x*-ray, until the cells disintegrate; and in the final stage of detritus it is seen mainly in the leucocytes, either as a degeneration or possibly as a phagocytic inclusion. In view of Unna's statement that fatty degeneration does not occur in epithelioma this is certainly a noteworthy effect of the treatment.

2. VASCULAR CHANGES.—Marked evidence of the formation of new blood-vessels. They are seen between the epithelial cells, and noticeably in the centres of many pearls. They are at first filled with red-blood cells with an occasional white cell, but later the red cells disappear and the vessels are packed tightly with polymorphonuclear leucocytes which are also present between the epithelial cells and finally separate them into bands and detached cells surrounded by a reticulum filled with leucocytes.

3. ELASTIC TISSUE.—Weigert's resorcin stain shows considerable elastic tissue in fibers and granules, usually in the immediate neighborhood of a new vessel, but not in its walls.

4. HYALINE DEGENERATION.—As this degeneration is a regular part of the life history of an epithelioma it is not surprising that it should form a large part of the picture in many of the sections. It is especially noticeable in both pearls and single cells about the middle of the series, while coagulation necrosis replaces it in the latest slides.

In many of the later slides the hyaline bodies of Unna are plentiful, as well as many cell inclusions which stained by Pianese III b. or by Plimmer's method, are indistinguishable from the so-called Plimmer and Russell bodies. As these do not appear in the early sections, but only when karyokinesis has ceased and degenerations of various kinds are very marked, it is difficult to understand how these fuchsine bodies can have any etiological relation to cancer. They are indistinguishable as to staining reactions from the other hyaline bodies noted above.

5. NECROTIC CHANGES IN CELLS.—In some of the early slides karyokinesis is well marked, but later it entirely disappears except an occasional cell in blocks taken from near the skin border of the ulcer.

Chromatolysis begins quite early and increases until in the last sections there is hardly an intact nucleus. At the same time there is fusion of the cell bodies and loss of all cell outlines. Hyaline degeneration of single cells is very common, as before stated, as are the fuchsine bodies.

6. FINAL RESULTS.—The latest sections ob-

tained before destruction and liquefaction, show an interesting and remarkable picture.

Nothing is left of the epithelial structures but some dimly staining masses of cells in coagulation necrosis, with the rest of the section composed of a fine reticulum taking the acid stain, having its spaces filled with polymorphonuclear leucocytes, fragmented nuclei and other detritus, while interspersed through the mass are small clumps of epithelium and single cells, which have no nucleus and have lost their outline and are just ready to pass into coagulation necrosis.

In areas where the final fluid detritus was confined the macroscopie appearance was like a so-called laudable pus and the miscroscope showed only polymorphonucleur leucocytes, broken down epithelia and free fat.

MINNESOTA ACADEMY OF MEDICINE

R. O. Beard, M. D., Secretary.

Stated meeting, Wednesday evening, May 6, 1903, at the Hotel Ryan, St. Paul; the President, Dr. J. Warren Little, in the chair.

Dr. S. P. Rees, of Minneapolis, reported a case of appendiceal abscess, with specimen of gangrenous appendix removed. The salient features of the case were the acute and severe symptoms of attack; the quick rally of the patient to apparently normal conditions; but the persistence of marked leucocytosis and the discovery, by rectal examination, of a pus accumulation. An operation was performed by abdominal section, and an abscess sac was found lying deeply in the true pelvis with a Y-shape form; it was successfully drained and packed, and the patient was reported as making a rapid recovery.

Dr. Haldor Snévé, of St. Paul, asked whether the diagnosis had been made and operation determined by leucocytosis or by discovery of tumor per rectum.

Dr. Rees replied that the persistent leucocytosis had guided the search for the pus accumulation.

Drs. J. W. Little, of Minneapolis, and Dr. Walter Courtney, of Brainerd, questioned the advisability of going into the abdominal cavity in a deep-lying case of this kind, and suggested its drainage by rectum.

Dr. A. Shimonek, of St. Paul, stated the usual origin of these cases in a periproctitis, and urged the opening through the rectum for drainage as the better surgery.

Dr. C. H. Hunter, of Minneapolis, inquired why so large an accumulation of pus had been allowed to collect before operation.

Dr. Rees replied that the collection was not large, and that the symptoms were too acute at the outset to justify operation. He spoke of the excellent results of operation in the patient's convalescent state, and claimed that the end fairly justified the means.

Dr. Haldor Snévé reported a case of probably similar character opened by rectum.

Dr. F. F. Wesbrook, of the State University, read a paper upon "The Bacteriology of Typhoid Fever."

Dr. Walter Courtney, of Brainerd, asked Dr. Wesbrook whether the bile in the typhoid-infected gall-bladder was normal, or whether pus was present.

Dr. Wesbrook said that he did not see the case cited, but the report of it showed an atypical bile mixed with much mucus, but with no pus.

Dr. Courtney questioned the bactericidal action of bile.

Dr. Wesbrook said that he had referred to the degeneration of colon bacillus in the liver, but doubted the bactericidal effect of bile. He said that he never found typhoid bacilli in gall-stones, although they had been found there; he had found three varieties of the colon bacillus in them.

Dr. A. J. Gillette, of St. Paul, raised the question of typhoid or mixed infection in joint affections associated with typhoid fever.

Dr. Wesbrook said that he had never found the typhoid bacilli in pure culture in these cases.

Dr. R. O. Beard, of Minneapolis, cited a case of very general implication of the joints in typhoid convalescence.

Dr. J. L. Rothrock, of St. Paul, said that Professor Chiari had reported twenty-three cases of typhoid infection of the gall-bladder, which showed invariably cholecystitis, with round-cell infiltration and typhoid colonies. Similar colonies had been found in the spleen and other organs.

NEWS ITEMS

Dr. C. H. Johnson has resumed practice at Austin.

Dr. E. Dickinson, of Akeley, has located at Deer River.

Dr. E. W. Gag, a graduate of Rush, has located at Wabasso.

Dr. J. R. Straw, of Ashland, Wis., committed suicide on the 3d inst.

Dr. Stephen Fisher, of Milwaukee, Wis., has located at Marion, N. D.

Dr. O. E. Belcourt, of Argyle, is visiting the hospitals of Canada and the East.

Drs. C. A. & O. H. Hegge, of Austin, have gone to Europe for special study.

Dr. John L. Shellman, a graduate of the State University, will locate in Hibbing.

Dr. E. H. Belyea has returned to Williston, N. D., where he formerly practiced.

The Glyndon News says that village needs a physician, and thinks the location a good one.

Dr. C. C. Walker, of Lamberton, and Miss Julia Cole, of Chatfield, were married on the 4th inst.

Dr. Robert Turnbull, a graduate of Trinity College, Toronto, has moved from Felton to Murdock.

Dr. George R. McMurphy, of Brookings, S. D., has returned to Ortonville, where he formerly practiced.

Dr. Watson, a recent graduate of Hamline, who has been practicing at Boyd, has located at Le Sueur Center.

Dr. E. H. Belyea has returned to practice at Buford, N. D., after several years' absence on the Pacific coast.

Dr. R. H. Ray, of Walnut Grove, has gone East for an extended course of special study in nose and throat work.

Dr. G. F. Reineke, of New Ulm, has gone to Europe to visit the hospitals, and take a special course in eye and ear work.

Dr. E. R. Barton, of Frazee, who has been sick in a Minneapolis hospital for three weeks, has returned home much improved.

Dr. E. R. Bennett, of Halstad, who has been in Arizona for his health, has returned to resume his practice, having been greatly benefited by his rest.

The citizens of Worthington have started a movement for the erection of a hospital building in that village. The physicians are heartily in favor of the plan.

St. John's Hospital of Fargo, N. D., is to have a handsome new building, which will cost $50,000. Architect Geo. Hancock has been commissioned to draw the plans. Only the foundation will be put in this year.

The Alumni Association of the State University met in St. Paul in annual meeting on June 3d. The following officers were elected for the ensuing year: President, Dr. W. R. Ramsey; vice-presidents, Drs. F. E. Burch and Thomas Fulton; secretary and treasurer, Dr. W. A. Dennis.

The Albert Lea District Medical Society met in Albert Lea the last of May. The new officers elected are as follows: President, Dr. Wedge, Albert Lea; vice-presidents, Dr. Palmer, Glenville; Dr. Bryan, Forest City, Iowa; Dr. Frasier, Lyle; secretary, Dr. Wilcox, Albert Lea; treasurer, Dr. Von Berg, Albert Lea.

The Blue Earth County Medical Society held its annual meeting at Mankato on June 1st. The following were elected officers: President, Dr. O. M. McMichaels, Vernon Center; first vice-president, Dr. G. R. Curran, Mankato; second vice-president, Dr. H. G. Parker, Madison Lake; secretary, Dr. J. S. Holbrook, Mankato; treasurer, Dr. J. H. James, Mankato.

The South Dakota State Medical Society held its annual meeting at Mitchell on May 28 and the meeting was the best held in many years, both in attendance and interest. The following officers were elected for next year: President, Dr. B. A. Bobb, Mitchell; vice-president, Dr. C. B. Mallory, Aberdeen; secretary-treasurer, Dr. J. L. Stewart, Irene. The next meeting will be held at Redfield.

The State Medical Society of North Dakota met at Bismarck on May 21 and 22. The attendance was large, and the meeting was an enthusiastic and profitable one. The following officers were elected for next year: President, Dr. W. H. Bodenstab, New Salem; first vice-president, Dr. J. A. Rankin, Jamestown; second vice-president, Dr. Paul Sorkness, Fargo; secretary, Dr. C. L. Brimi, Cooperstown; treasurer, Dr. W. H. M. Phillips, Hope. The next meeting will be held at Fargo.

FOR SALE

I have an extra ophthalmometer, practically new, which I will sell for 50 per cent of its cost price.

Dr. C. H. Kohler, 612 Pillsbury Bldg., Minneapolis.

NORTHWESTERN LANCET

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SOME THERAPEUTIC USES OF THE X-RAY*

By W. P. Spring, M. D.

Fellow of the American Electro-Therapeutic Association and Member of the Roentgen Ray Society

MINNEAPOLIS

Since I have been giving my special attention to the use of the *x*-ray, I have had twelve cases of epithelioma about the face, nine of which have been cured. One of them was a recurrent cancer of the eyelid, in which the eye was exposed without injury. Of the remaining three, one, a very old man, was too feeble to continue treatment, and died of other causes. One that had a fungating growth in front of the ear, the size of the palm of a hand, was benefited by the rays, but the pain, instead of being relieved, seemed to be increased. He began taking morphine, lost courage, and discontinued treatment. One recurrent gland under the jaw is still under treatment.

I have had six cases of lupus vulgaris: three of them are practically cured; one a disseminated case on the face is greatly improved; one with an ulcer at the inner canthus of each eye is nearly well after a short series of treatments; and the last case has just commenced treatment.

Two cases of lupus erythematosus have both done well.

Two cases of acne rosacea, one with a very red nose, improving wonderfully.

One case of universal psorasis, almost well after a short series of treatments..

Three cases of goitre that are progressing well. In these I am using in connection with the *x*-ray, applications of iodine, driven in with high frequency currents by the vacuum electrodes.

I have two cases of birthmark on the face: one just commenced treatment; one with an improvement in color of about 50 per cent after four months' treatment.

One case of chronic ulceration covering the upper surface of the glans penis, following chancroids, which had resisted the ordinary forms of treatment for about a year, yielded readily to the *x*-ray.

For epilation, two have recently commenced treatment. Two have had the hair all removed after about thirty-five treatments, and are receiving short series of applications as the hair recurs.

In a case of vascular warts on the chin, referred to me by Dr. Vander Horck, the ray has caused the tumors to change in color, and become almost level with the surface of the skin.

A case of recurrent fibroma of the inner angle of the lids, referred to me by Dr. C. D'a Wright, is doing well.

I have had eight cases of cancer of the breast. One of these referred to me by Dr. Snow of New York, is receiving prophylactic treatment immediately after operation. Three of them are recurrent cases. One, referred to me by Dr. F. M. Rose, of Faribault, died of metastasis. Another, referred to me by Dr. F. A. Dunsmoor, received great benefit as to nodules in scar, but owing to her being away from home and having no proper care or nourishment, I sent her home and have heard nothing further. Another, sent to me by Dr. A. W. Abbott, had recurrence in scar and also a gland in the axilla. This case was very severely burned, and since that time the scar seems to be healing, but there are still two small glands that are quite obstinate. One primary case, referred to me by Dr. W. A. Jones, is, I think, well. One primary case, referred to me by Dr. C. A. McCollum, with an ulcerated condition is almost healed, but owing to indefinite symptoms about the abdomen, I am very much afraid of metastasis. Two other cases with tumors in the left breast, one the size of a goose egg and one very much smaller, are both doing well.

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*Read before the Minnesota State Medical Society. June 17-19, 1903.

One case of the larynx, referred to me by Dr. Watson, expresses himself as feeling very much better. A gland the size of a hen's egg under the jaw has entirely disappeared.

One case of recurrent cancer of the vagina, referred to me by Dr. Abbott, seemed to be improving for quite a while, the patient gained in health and strength and had less pain, but it was only temporary. She has discontinued treatment, and I have just heard that the cancer has perforated the rectal and vaginal walls.

I have had six cases of sarcoma. One, a tumor in the anterior chest wall, following typhoid, referred to me by Dr. Knute Hoegh, received decided benefit during treatment, but stopped for some cause unknown. One case received prophylactic treatment, immediately after the second operation for sarcoma of the nose, and has had no recurrence as yet. One inoperable sarcoma of parotid, referred to me by Dr. F. A. Dunsmoor, died of metastasis, but the tumor of the parotid was held in check during treatment. One case of recurrence after Dr. Halsted's operation for sarcoma of the breast is progressing well. One case of osteosarcoma of the upper jaw, referred to me by Dr. A. B. Barton, after two operations had been performed, seemed to be checked for a time but the final result was not satisfactory. One case of very large abdominal tumor, recurrent after removal of testicle, was remarkable in the fact that pain was entirely relieved, that the tumor reduced one-half in size, that a decided toxemia was caused which stopped treatment for three weeks, and yet at the end of three weeks a burn which was not in evidence before, developed, and that the tumor then increased to its former size, and the man died from exhaustion, never having suffered another moment of pain and having discontinued large doses of morphine, to which he was addicted.

Among the skin diseases treated by the *x*-ray we have reports from Hyde & Ormsby[1], Snow[3], Varney[4], Campbell[2], of very successful results in acne. Campbell reports fourteen cures, and in many of them there has been no recurrence after two years.

In chronic eczema, Hyde[1], Childs[22], Varney[4], report particularly good results in infiltrated, especially in localized patches, the itching being very early relieved.

For epilation the *x*-ray is satisfactory, only tedious, requiring about thirty treatments for the first removal and then from one to three subsequent series of treatments to entirely destroy the hair follicles.

Cures of keloid are reported by J. F. Winfield[7], Pusey[6], and Varney[4]. The Varney case had recurred three times after operation. Cure requires very strong treatment, even to burning.

Senn[24], Pusey[4], and Childs[22] report cures of Hodgkin's disease, but Williams reports recurrence in his cases.

Dickson[25] and J. F. Schamberg[22] report cases nevus of the face nearly cured.

Ferris[5], Pfahler[9], and Hyde[1] report thirty-six cases of psoriasis as cured.

It is early yet, however, to affirm that these cures are permanent.

Hart[37] and Murphy[30] report remarkably rapid cures in callous sinuses. I have had one case with equally good results.

Hyde[1], Rhinehart[36], and Varney[4] have all had rapid results in sycosis; and Varney[4] is using the *x*-ray to prevent pitting in smallpox.

Rodman reported, at the last meeting of the American Medical Association, good results in tubercular glands; and Varney[4] also reports a cure in a few weeks of a case that had had five recurrences; another case cured in six treatments; another case in ten days; and in an inoperable case the neck was reduced two-thirds, and the patient discontinued treatment.

In tubercular joints Varney[4] reports a cure of knee-joints in five months, and of a hand which had sinuses and dead bone so that the patient had fairly good motion. J. B. Murphy[30] reports three cases of recurrent results in tuberculosis of the spine.

Mayon[26] has reports of pannus and trachoma cured.

Eberhart[23] reports cure of chronic gleet with the morning drop cured with from three to fifteen exposures.

J. P. Lord[15] reports a cure of sarcoma of orbit in one month.

Greenleaf[27] reports in twelve treatments relief of all symptoms in case of sarcoma of thyroid.

Kirby[28] reports a case of round-celled sarcoma of neck, ulcerated, cured in fifteen treatments.

H. P. Pratt[29] reports a case of melanosarcoma of the eye cured, with no recurrence in nine and a half months.

Skinner[3] reports osteosarcoma of upper jaw; died of toxemia, pain stopped; temporary cessation in growth of tumor; second, glands in neck, recurrent, died; third, glands in neck, also abdomen; neck glands cured, but died of abdominal trouble; fourth, fibrocystic uterus, died; tumor reduced in size; fifth, osteosarcoma of the orbit, recurrent, improving; sixth, abdominal wall, recurrent, improving; seventh, sarcoma of the abdomen, tumor nearly gone; eighth, ulcerated sarcoma of neck, cured.

Gibson[3] reports a case of recurrent melanosarcoma of the mouth, symptomatically cured.

H. R. Varney[4] reports thirteen cases: seven osteosarcoma; six lymphatic sarcoma, inoperable, no cures, but life prolonged and made comfortable. ......[30] reports a case of fibrosarcoma of rib, cured, patient died of typhoid, and the pathological examination showed the cure to be complete. Richmond[31] reports a rapidly growing sarcoma of kidney cured. Dickinson[25] reports sarcoma of the right breast practically cured. H. S. Boardman[30] reports sarcoma of both sides of the head and neck cured in eighteen treatments. J. F. Winfield[7] reports sarcoma of jaw and glands of neck cured; no recurrence. Coley, at the last meeting of the American Medical Association, said that out of thirty-six cases of sarcoma, only four had been cured, and the best results were with toxins used with the *x*-ray. Pusey[6] reports cure of sarcoma of neck in one month with slight recurrence after five months. Osteosarcoma of shoulder had sixteen exposures; pain was stopped, but no effect on the tumor. Sarcoma of pectoral muscles treated one month; pain relieved, and tumor the same. H. P. Mosely[11] reports a recurrent sarcoma of orbit cured in two months. Beck[33] reports great improvement of osteosarcoma of the orbit. Beck[34] reports a melanosarcoma of the leg, recurrent, greatly improved.

SUMMARY

I have found reports of seventy-four sarcomas of various forms, of these seventeen were reported cured, five improving, five died, and forty-seven had life prolonged and made more comfortable, although incurable. Probably further reports will cut down the number of cures.

In the field of cancer, Scheppergrill[19] reports a cure of cancer of the larynx. Delavan[20] reports two cases with no results, two improving, and one very much better died of Bright's disease, and Snow[3] reports one improving. Pusey[6] reports cure of orbit. Grubbe[5] reports great improvement in cancer in rectum. C. W. Allen[10] reports one much better. Coley[12] reports improvement in sigmoid, but two cases in rectum died; no results. Gibson[3] reports improvement of recurrent rectal cancer.

Only two cases of cancer of the stomach are reported; one, by J. Rudis-Jicinsky[18], had the symptoms relieved, but the patient died; and Skinner[3] reports a case improving, November, 1902, nothing since.

In cancers in and about the uterus, Grubbe[5] reports an inoperable case treated at intervals from November 11th to May with remarkable results, the tumor decreasing in size and the patient getting back her strength. Pusey[6] reports five inoperable cases, very bad; two died in one week, one in six weeks, one in three months, one treated four months and will die. Pain was relieved in all cases. Hopkins[21] reports case of cancer of uterus, treated by the Finsen light one hour and the *x*-ray from five to eight minutes each treatment, with good results. Grubbe[14] reports case of recurrence cured symtomatically in three months. Gibson[3] reports case November, 1902, of primary, inoperative cancer; died after receiving temporary benefit. Skinner[3] reports one case that had been operated upon twice, and all symptoms were helped, but the patient died of toxemia; second, primary extensive, relieved pain, made tumor smaller, patient died of toxemia; third, primary uterine, pain and discharge lessened, patient died; fourth, primary uterine, growth stopped; two cases with no results and one case which stopped treatment, pain and discharge were both better. Dr. Margaret Cleaves[17] reports one primary inoperable case with a recto-vaginal fistula; one recurrent scirrhus encroaching on the rectum, one half gone in six weeks; one primary extensive treated two months with result that hemorrhage stopped, also discharge and odor and size reduced to nearly normal. She uses a water-jacket and Caldwell's vaginal and rectal tube, also vesical without water-jacket. Pfahler[9] reports one uterine and appendages, primary, had sixteen treatments with great improvement, then a burn, and patient stopped on account of fear of another burn; two, primary improved but stopped treatment; three, primary, no result except pain stopped. Coley[12] reports one case of cervix cured; three cases, no benefit. J. Rudi-Jicinsky[13] reports primary cancer of cervix cured in four months.

SUMMARY

In cases in or about the uterus, the reports show no results in seven cases, seven cases improved, four cured symptomatically, nine dead. Here also we must wait for future reports.

CANCER OF THE BREAST

Pfahler[9] reports one recurrent on left side, and primary on the right side, and glands in both axillæ, and both practically cured in six months. Second, primary, five exposures, nearly cured, and patient died of uremeia. Third, recurrent in both breasts and no results. Three cases of recurrent improving. C. W. Allen[10] reports six recurrent cases and three primary. Of these, one died, three stopped treatment and five are under treatment and improving. H. P. Moseley[11] reports one primary, inoperable, ulcerating; died. Two, recurrent; nodules improved but patient died of metastasis. Three, case much improved. J. Rudis-Jicinsky [13] reports case of ulcer of right breast with gland in axilla; treated four weeks, then operated, then treated nine weeks; no recurrence as yet. Grubbe,[14] first, three recurrences of small nodules, four months treatment and practically cured; two, recurrence of nodules, cured in five months; third, primary, ulcerated, cured in three months; fourth, primary scirrhus, cured in five months. J. P. Lord[15] reports, first, the fourth recurrence and patient died of metastasis with cure of local disease; second, scirrhus, no results; third, recurrent in scar and axilla, cured. Hopkins[16], first, primary, cured in three months; two, recurrent cured with x-ray and Finsen light. Skinner[3] reports one case of recurrence, ulcerated, with temporary arrest, and pain stopped, patient died; second, scirrhus and glands, discharge stopped and symptoms better; third, primary, ulceration and glands, ulcer cured and patient much better; fourth, primary, one-half gone; fifth, recurrent, nearly cured; sixth, primary, improved. H. R. Varney[4] reports thirteen cases of breast, all recurrent but one; three inoperable; three cured with the rays alone; two with the rays and knife; five partial cures; and three, no results. J. F. Winfield[27] reports six cases, two primary and four recurrent; first, primary, stopped growing after four exposures; two with three exposures; two with three exposures and one-half smaller. Of the recurrent, one died after a few treatments; second, the small nodules and discharge stopped, three treatments and then operated on, no recurrence as yet. Pusey[6] reports one recurrent cure in five months; second, recurrent, cured in three months; third, recurrent cured in two months; three cases with no results. Coley[12] reports twenty-one cases; in three cases the nodules were gone in a few weeks, but recurred. The x-ray did not prevent recurrence in two cases that were treated right after operation. Dr. Morton in a very valuable paper which will be found in the Medical Record of May 30, 1903, and which everyone should read, reports a series of twelve breast cases as follows: First, breast case, tumor, primary, cured with seventy-four treatments, six months; second, breast ulcerated, nearly cured in ninety-three treatments, seven months; third, primary, scirrhus, size of a goose egg, with glands, after forty-six treatments, very nearly gone; fourth, primary, reduced from six inches to two inches, perfectly movable, then operated; fifth, cure of primary breast cancer and lymphatics, nine treatments; sixth, cure of tumor, ten weeks, thirty-three treatments; seventh, tumor cured from November 18th to January; eighth, tumor cured from December to April; ninth, scirrhus, very much better after four months; tenth, recurrent on one side, primary on the other; cured symptomatically five months, sixty-five treatments; eleventh, recurrent nodule, cured in seven treatments, twenty-four days; twelfth, recurrent, breast and axilla cured from August 27th to December 28th.

SUMMARY: CANCER OF THE BREAST

Four stopped treatment, then died; five nearly cured; twenty-three cured; eleven, no results; seventeen improved; eleven cured with use of *x*-ray and knife. It seems to me that Dr. Morton, in his last paper to which I have just referred, has made a step in advance that will give us better results in deep cancers. In the future we should not hear so much of operators who do not produce a burn, and it will be better understood that the man who is afraid to crowd the treatment, even though he sometimes produces a burn, is the man who is getting poor results and is perhaps stimulating growth instead of destroying it. The *x*-ray dosage is similar to any powerful drug. Small doses produce stimulation and growth; larger doses, destruction of abnormal tissues; and still larger, of tissues of low vitality, such as the hair and nails; and if still further crowded, any tissue can be destroyed.

Through the kindness of some of the prominent operators throughout the country, I am permitted to read to you a few of their experiences and their opinions of the results in deep cancer.

CORRESPONDENCE

Dr. Margaret Cleaves, of New York, writes: I have had only the most desperate of inoperable cases that have been a forlorn hope from the beginning. From my experience with them I believe that in all inoperable cases the x-ray should be used; second, that by its use, pain and hemorrhage are controlled, discharge lessened, odor modified or controlled entirely, fistulous openings sometimes healed, and the utter loathesomeness of the disease done away with; third, in the cases that improve, nutrition is markedly improved and functions likewise; fourth, for those cases absolutely without hope, x-ray treatment makes the last days of the patients much more tolerable to themselves and to others than would otherwise be possible; fifth, if perchance a case improves, that improvement is only to be maintained by remaining, so to speak, in an x-ray and ultraviolet environment,—in other words, in touch with x-ray treatment. As to curing those cases, I am absolutely without hope in the present state of our knowledge; sixth, I believe the treatment worth while, no matter how desperate the case.

We have much to learn about the x-ray, and the best method of using it. With greater knowledge we may do more and better.

Were a member of my family suffering from an inoperable cancer, I would use the x-ray, no matter how far advanced the case.

Dr. Russell H. Boggs, of Pittsburg, Pa., writes: In deep carcinoma I have had some results, every case has shown improvement, and some more than others, but each sufficient to show that each case of carcinoma, no matter where located or how hopeless the outlook, should be treated by the x-ray.

The greatest drawback to the treatment, and this would apply more particularly to deep-seated carcinomas, is that physicians and friends of the patient are continually discouraging them by saying that it is useless to attempt treatment of such cases by the x-ray. * * * * As an illustration: Mrs. A., aged 38, had the uterus and appendages removed a year and a half ago, for carcinoma, which recurred six months afterward. Two of our best gynecologists were called and both pronounced the case inoperable on account of the large mass and number of adhesions. The x-ray treatment consisted of ten minutes every day for ten weeks, with a medium low tube, but with sufficient spark gap to give penetration. At the end of this time the tumor was reduced one-half and all discharge checked. Then some friends and a friendly physician said that there was nothing in x-ray treatment. They kept discouraging the patient, and she stopped treatment.

Dr. William J. Morton, of New York, writes: I should be very happy to write you a few special words, but it will be utterly impossible just at present. But my opinion is fully expressed in an article by me in the "New York Medical Record" of May 30, 1903. The article is entitled "Primary and Mammary Carcinoma Treated by the x-ray." I think you will see in reading those cases that I believe that mammary carcinoma, although internal, can be successfully treated by the x-ray.

Dr. Robert Newman, of New York, writes: My observation is that the x-rays do better in cancer than any other treatment. In all cases, even in far advanced ones, it will arrest all pains; next, it will lessen and finally arrest the suppuration; then it may clear the ground of the suppurative field, changing it to a healthy appearance, filling up the wound with good granulations, diminishing the sore and, in many cases, healing up and covering it with a new cutaneous surface. This process takes place in favorable cases, if they present themselves early, when the disease is local, but if the cases are advanced or operations have taken place, the chances for complete recovery lessen. However, in far advanced unfavorable cases, much good will follow the treatment by the x-ray, as always it will alleviate pain, and procure thereby rest and sleep, which makes the patient comfortable even to a fatal end. Under all circumstances, the x-ray ought to be used, as doing a great deal of good and allaying many painful and unpleasant symptoms.

Dr. William B. Coley, of New York, says: I have used the x-ray in about one hundred cases of malignant disease, and my present opinion of its value does not differ materially from that already expressed in the paper I sent you. I am more and more convinced that in order to obtain permanent success, one must continue the treatment, not only for weeks and months, but for years. I have one patient with inoperable sarcoma of the femur, whom I have been treating with the x-rays since a year ago in February. The original disease seems to have been destroyed and the metastatic growths in the pectoral and lumbar regions are now slowly yielding to the combined x-ray and toxin treatment. My most satisfactory results in sarcoma have been obtained in cases where the toxins were used in combination with the x-ray. I am strongly opposed to the x-ray in any but inoperable growths.

Dr. Clarence E. Skinner, of New Haven, Conn., writes: I have not changed my views since I read my paper at Chicago last December. Of course, we do not get the same quick and satisfactory results in deep cancers as in superficial cancers, but it has been proved, not only by my own experience, but by that of half a dozen other men, that cancer, the most deeply seated, is curable by the x-ray in a certain proportion of cases, and it is imperative that the agent be given a trial in all cases. This is the only way we can find out which will respond and which will not. There is nothing else that will do any good, and, as I have said, this will do some of them good.

The men who are constantly reporting failures are the ones who are using the coil and low tube. Those who are successful are using the static machine and high tube.

Do not be discouraged because you have failed in a few cases, but keep it up, doctor, thoroughly and accurately, and you will some time accomplish a cure that will astonish you.

Dr. G. W. G. Hopkins, of Brooklyn, writes: I am still using the x-ray in treatment of all forms of cancer with increasing satisfaction. In uterine cancer I am having excellent results in combination with the Finsen light.

Dr. G. E. Pfahler, of Philadelphia, writes: In answer to your inquiry concerning the use of the x-ray in deep cancers, I believe that it is still in the experimental stage, and that no accurate or positive conclusions should yet be drawn. That it is of value is proven by the cases that have been cured. In nearly every instance they were inoperable, either because of the extent of the growth, its location, the condition of the patient, or the absolute refusal of operation by the patient. It surely means just that many lives saved. That it is not a sure cure is proven by our failures. Besides the usual anemia present in advanced cases, we almost always have to deal with a septicemia resulting from the degeneration of the cancer as a result of the treatment. As to the permanency, we dare not yet say.

As a whole I believe it is a good thing, and that it should be recommended in all cases where operation is contra-indicated or refused, and should follow all operations for malignant growths. I am supported in this view by the fact that I have two cases of recurrent carcinoma, involving both breasts and the axillary regions, which I believe are well; also two cases of advanced and inoperable carcinoma of the uterus which are apparently cured, besides a number of other cases still improving under treatment.

Dr. M. F. Wheatland, of Newport, R. I., says: I would say that my case of cancer of the stomach (reported in the American X-ray Journal for March), in which the surgeon thought it was necessary to perform pylorectomy, has not had any treatment since January, and is today apparently in excellent health. The case of cancer of the breast died of cardiac asthma. A recent case of cancer (male, age 70) starting in epulis about the right molar and extending to the cheek and soft palate, involving the lymphatic glands on that side, and producing great distortion of the face and neck; after a few treatments the mass softened, and an opening was made at the angel of the jaw and pus evacuated. In the course of two months the wound healed, and, to external appearance, became normal. Treatments are now particularly directed to the condition of the soft palate, which does not improve very rapidly, owing to the timidity of the old gentleman and the inability to properly direct treatment to that part. He has, however, gained ten pounds in the last two months. * * *

My favorable results warrant me in believing that with the amount of work being done at this time, there will be evolved a technique capable in the future of influencing for good the larger number of cases.

Dr. C. W. Allen, of New York, writes: I believe that the ray is capable of doing valuable work in deep-seated breast cancer. Till now results are not brilliant; still, life may be prolonged, and an occasional cure of an otherwise hopeless case may be effected, which is something. Great care must be exercised or fatal termination will be hastened.

J. Rudis-Jicinsky writes: In superficial cases of malignant growths, though the recurrence is possible, radiotherapy should, as a rule, be tried first, especially in epithelioma, rodent ulcer, etc.; in carcinoma of the breast, operate and use the rays both. In deep-seated carcinoma, surgery should be the first resort. Evidence not sufficient yet in regard to rays; open to doubt. My results were negative. In some cases, slight reaction, but death followed; in others, auto-intoxication manifested variously by fever, diarrhea, and general symptoms of sepsis. In inoperable cases, ray always, and control the pain at least. In glandular sarcoma, operate and use the x-ray also. In inoperable cases the rays may be worth trying. Influence upon pain marvelous in some cases; in superficial cases, as far as yet, no recurrence in my cases, and I had very many. In tubercular glands x-ray may be tried. We get some results, but if there is not an invasion of the lungs, we may get recurrence in about six months. In tubercular joints the results are good. In lupus there is no doubt as to favorable action of the raying. In tubercular laryngitis, we use the ray as a prophylactic measure only. In all chronic skin disease, where epilation is desired, we get satisfactory results, especially if we use the Finsen light too.

The pain is controlled in nearly all cases, soon, due, perhaps, to the high tension, and not the ray alone.

Dr. G. G. Burdick, Chicago, Ill., writes: In reply to your letter, will state briefly that in tuberculosis I am getting very satisfactory results, probably averaging 70 per cent symptomatic cures. Of course I do not depend upon the ray alone. For internal cancer, the ray treatment is very promising, but not conclusive. I have had a large number that are symptomatically well, and have been for many months. To say they are cured would be rather premature.

My good results are increasing as my knowledge of the ray increases, and we expect in the near future to have better equipment for handling internal diseases.

Dr. G. B. Massey, of Philadelphia, writes: I must express my continued astonishment that the profession is so ready to investigate x-rays in cancer while so slow in taking up massive cataphoresis of mercury and zinc. I can demonstrate any day that the latter should supersede the knife almost entirely in operable cases, and that it is often preferable in inoperable cases. While speaking positively in this way, I do not mean to underrate the value of the x-ray as a last resort in many inoperable cases and in very extensive surface infections, malignant and otherwise, in which the best results have been obtained with the rays. I regard the minor zinc-mercury method under cocaine as generally better because it is not only easier of application, but absolutely free from the risk of burns that still attend radiation.

Of the value of the x-ray in strictly internal growths, I have had no experience, but have been called upon to use cataphoresis in case of cancer of the mouth, vagina and rectum, after they had failed to be of benefit.

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A DISPENSARY FOR TUBERCULOSIS IN MINNEAPOLIS*

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MINNEAPOLIS

The paternal and scientific nation of Germany has evolved the world crusade against tuberculosis. Those who are watching the growth and polimics of the movement are impressed with its magnificence, its earnestness, its results. Brehmer's teachings have laid the corner-stones of many buildings; Kock's bacillus and tuberculin have given us tangible factors in the struggle; the international congresses have awakened renewed zeal and effort in the departments of pathology, therapy, clinical and preventive medicine. The movement has shown tuberculosis to be a disease, *sui generis,* an agent of destructive civilization which, to resist, demands special and combined efforts of sociological and medical sciences.

Recognizing the value of early diagnosis and in order to reach as many early cases as possible the Germans, since 1899, have opened polyclinics for tuberculosis in the cities of Berlin, Marburg, Halle Bonn, Kiel, and Greiswald—all university towns. All of these clinics are connected with the general university dispensaries, with the exception of Berlin. The latter, owing to its immense patronage and fear of contamination, has removed into a house apart from the general clinic. A review of the work done in this dispensary from November, 1899, to November, 1900, stated briefly is as follows: Cases admitted, 4,403; sputum examined of separate persons, 2,265, of which 628 gave positive results; 946 patients were found to be early cases and were referred to sanatoria. Poor patients are examined and treated free; pay patients only when referred by a physician and the result is sent to the physician. Of the 4,403 patients, 2,413 were referred cases. There is a laboratory fully equipped for examination of sputa, animal experiments, and bacteriological studies. Agitation is in progress for an addition of a number of beds for detention and observation and for tuberculin test[1]. In the smaller university towns a few hours on certain days of the week are devoted to tuberculosis. The teachings of personal prophylaxis and free examination of sputa are features of them all. In the cities of Stettin and Wiesbaden, non-university towns, special clinics were developed in connection with the municipal hospital. The Stettin station is unique and illustrates specialization to an excellent degree. There is first a division for advanced cases. All patients in whom tubercle-baccilli are found are sent to this ward; if no bacilli are found they are detained in what is called "A division for early diagnosis of tuberculosis for the working people." Here the suspects remain a period not exceeding seven days, expenses being paid by the national sick benefit fund, and the families also receive benefits. The observations consist in daily examination, *"mensuration"* every three hours, and tuberculin injections. Cases which are suspicious, but do not respond to present known tests are placed on the clinic's register, and report for examination from time to time. There is also a free examination of sputa. In Wiesbaden two days a week are set aside for clinics for tuberculosis. Special spit-flasks are distributed[2].

In France there are ten dispensaries open in Paris, and nine in the provincial cities[3]. The French use these in their combat against tuberculosis, recognizing that sanatoria only treat early cases, that in proportion there are a great many more advanced cases, and that family prophylaxis needs attention. Besides, France is poor compared with Germany in the number of sanatoria. These dispensaries are also made stations for distribution of tracts, foods, and personal instruction. The children's sanatorium near Paris called "Ouvre d'Ormesson" has a branch dispensaire in Paris. "The Dispensaire Emile Roux" of Lille perhaps needs a little more attention. It endeavors not only to examine and treat patients, but feeds, clothes, and does their washing. It was organized February, 1901. From a modest beginning it has developed into a large hygienic, therapeutic machine. Besides distributing meals, clothing, disinfectants, spit-cups, and fuel, it has an especial agent who instructs in family prophylaxis; it disinfects quarterly the homes of the tuberculous, and there is a steam sterilizing plant in which washing is done for 60 families a week. The expenses of the institution range to 30,000 francs per year[4]. It receives no state aid. As far as it is known to me there exists no similar institutions as above enumerated in any of the other countries of Europe.

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*Read before the Minneapolis Medical Club, April 20, 1903.

In the United States "the only tuberculosis dispensary which is exclusively devoted to the treatment of ambulant tuberculous patients, is the one connected with the New York Throat and Nose Hospital." I quote here Dr. Knopf of New York in his "The Present Aspect of the Tuberculosis Problem in the United States"; November 22, 1902, Jour. of A. M. A. The writer has been unable to discover any other. Again, you hear Dr. Knopf, one of the most active workers and propagandists for the tuberculosis crusade in America, pleading for a dispensary before the clinical section of the Suffolk District Medical Society, April 17, 1901: "Besides the one or two hospitals which you are going to have and the second state sanatorium, you should have an especially constructed building which should serve as a large dispensary and reception hospital for tuberculosis patients, from whence the cases for the city hospital or state sanatorium should be selected."

Minneapolis is peculiarly adapted for such an institution. The number of poor is not so large as to be unwieldy. There is less of squalor here than of ignorance. In this we have the advantage of our eastern cities, but the family life and habits of the tuberculous are the same everywhere. Besides, Minneapolis is growing in population and cosmopolitanism, and with this growth comes its train of filth and disease. A dispensary at this time will check and hold what tendency there is in this direction. The tuberculosis mortality in Minneapolis in 1890 was 9.39 per cent of the total number of deaths. For the next seven years the total mortality decreased, but the rate of deaths from tuberculosis increased to 12.73 per cent. Since 1897 the total mortality has decreased slightly, but in 1902 11.52 per cent of the total deaths was due to tuberculosis, showing that in spite of improved sanitary conditions and supervision tuberculosis has been on the increase*. In all these years tuberculosis leads the mortality bills.

Before venturing on a general plan for a free dispensary for tuberculosis I wish to discuss two questions which will be asked by some. First, why cannot the city health department take care of the tuberculosis problem? Secondly, will not an institution of such a nature conflict with the economic interests of the practitioner? Our Board of Health is a most excellent one, and compares favorably with that of any city in the United States. But a glance at the development, equipment, and general efficiency of health boards makes them to be fighters of acute, infectious diseases,—diseases which strike openly and can be fought *en masse*. Tuberculosis is a social disease; its spread is too insidious and too much a part of our modern physical development to be controlled by a health board. Missionary work among the afflicted is the only means of checking its spread. We need the aid of the health board in our project, but I firmly contend no health department in any city has developed the corps of workers or the means and facilities to check and stamp out tuberculosis. Quoting our health officer, in his report of 1901, we hear him say: "As is usual tuberculosis leads in the number of deaths. It has seemed that public recognition at the hands of the health boards of this disease, has not served to lessen its ravages. The most that can be hoped for is to educate the people to the recognition of the contagious nature of the disease, and to instruct them in properly protecting themselves in their homes." I congratulate our city on the fact that the local board has made active campaign against tuberculosis by offering free examination of sputa. To dispose of the second question I will recall the significant experience in the Berlin clinic. Out of 4,403 patients in one year 2,413 were referred cases. It is but reasonable to suppose that men in charge of an excellently equipped dispensary for tuberculosis should become experts in the diagnosis and treatment of cases; and that practitioners would avail themselves of such special training, in consultations. An arrangement could easily be adjusted wherein the dispensary examiner could treat only the poor free of charge, and that all pay cases would be referred back to the physician. I see mutual benefits and increase of interest in the therapy and study of the disease, arise from such a relation. Considering the plea of Dr. Chas. Lyman Greene in the August American Medicine, 1901, for early and more careful diagnosis in insurance examination and his statistics, the insurance companies might well be pleased to avail themselves of sending their doubtful cases to such a dispensary for observation.

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*The population of Minneapolis in 1890 was 164,738; in 1900, 202,718; the estimated population in 1902, 215,000. If the latter estimation holds good Minneapolis has increased in population over one-third in the last twelve years. It is gratifying to note that the total death-rate has not increased, in fact has diminished. Tuberculosis, however, has increased in relation to the total number of deaths. Reasoning from these facts shows that, although the vitality of the city has been greatly improved, tuberculosis has only been indirectly influenced and that a more concerted action is necessary to deal with this captain of the reapers.

Briefly, the plan for the institution is as follows:

FUNCTION.—To examine and treat all patients reporting to the clinic, paying especial attention to early cases; to instruct in personal prophylaxis, to investigate home conditions; to instruct in family prophylaxis; to visit and nurse advanced cases; to assist the patient financially or by food, clothing, and fuel during treatment; to distribute pocket spit-flasks, spit-cups, medicines, and antiseptics; to periodically disinfect tuberculous homes; to collate all material in available form for statistical purposes.

EXECUTION.—A suite of rooms or, better still, a separate building should be set aside for occupancy. The rooms or room may be offered by either of the two medical dispensaries already existing. A commission should be organized consisting of the mayor, city physician, city health officer, clinicians who are to serve in the dispensary, a representative from each of the various charitable organizations, civic improvement societies, Commercial Club, and philanthropic men and women interested in the poor. They may subdivide themselves for the collection of funds, control of expenditures, and mobilizing the experiment. To the mayor we might look for a recommendation for a small share of the annual budget, from the city physician assistance in locating phthisics, and district nursing; from the health officer assistance in periodic disinfection of houses and enforcing sanitary laws; from our societies personal and financial aid. And here I wish to pause and say that I am confident if this matter is presented to the various wealthy men, to the commercial, civic, and religious societies in the proper light, with emphasis placed on the social, economic, and humanitarian relation the tuberculosis problem bears to our city, that there will be a noble response and endorsement of such an institution. What public-spirited citizen can remain inert when he hears the startling words of Dr. Geo. F. Keene, of Rhode Island, before the meeting of the National Conference of Charities and Corrections[6]: "Consumption is a disease which has claimed more victims than all the wars, and all plagues and scourges of the human race. Even in the short years since Koch's discovery over 2,000,000 persons on this continent have succumbed to the fatal infection. The annual tribute of the United States to this scourge is over 100,000 inhabitants. Each year the world yields up 1,095,000; each day, 3,000; each minute, two of its people, as a sacrifice to this plague. Of the 70,000,000 individuals now peopling the United States, 10,000,000 must inevitably die of this disease if this present ratio is kept up."

What citizen can remain indifferent if he is convinced that tuberculosis is curable, and as easily controlled as smallpox, diphtheria, and typhoid fever, but that owing to its peculiar social nature, the accumulated neglect of the years, it is only with his aid and personal interest that we can make successful war against the disease. This self same appeal I make to you. We as members of the Minneapolis Medical Club, the younger generation of practitioners, keenly alive to the problem, owe to the altruism at the basis of our profession an active part in this concerted movement against tuberculosis.

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THE ORGANIZED MEDICAL PROFESSION*

By J. W. Andrews, M. D.

MANKATO, MINN.

Having been called by your suffrage to preside over this honorable and distinguished body of physicians and surgeons, the highest honor that can be conferred by the medical profession of the state upon one of its members, it is with pleasure and deep gratitude that I take this opportunity to thank you for the honor, and to pledge you my most earnest effort to assist in making this state meeting one of profit and interest.

I have nothing new, startling, or original to offer you in my address. I present to you in a few simple words that which has been uppermost in the minds of the medical profession of the United States the last three years, viz., the reorganization of the medical profession. At the St. Paul meeting, held in June, 1901, your honored president, Dr. William Davis, delivered an address entitled "The Organization of the Medical Profession," in which he very forcibly and beautifully set forth the advantages to be gained by organizing the medical profession along the line soon to be presented to the American Medical Association for its adoption.

At the Minneapolis meeting, held in June, 1902, your distinguished president, Dr. William Asbury Hall, gave an address to the Association, entitled "Organization of the Medical Profession: Its Aims and Benefits." At the time of this very able address, full of valuable advice and suggestions, the organization of the profession had had a year's growth. Two years had elapsed since its conception, and one year since its birth by the American Medical Association, in this city, and now, fellow physicians, it gives me pleasure beyond that which I can express, to be permitted to address you on the "Organized Medical Profession."

ST. PAUL MEETING

Another year has elapsed, and the development of the organization has been simply marvelous. The organization is not yet complete,—far from it,—but the foundation was well laid, and the superstructure has already assumed magnificent proportions, and now awaits the finishing touches, and the ornamentations.

Let us pass out into the future. As the watchman on the tower hails with delight the aurora of the rising sun, so we shall hail with unbounded joy a magnificently organized medical profession of the United States ere the 20th century shall have passed her babyhood. Thanks to the untiring, unselfish, and self-sacrificing efforts of a J. N. McCormick, of a P. Maxwell Foshay, and a George H. Simmons. It was they that conceived the present unique scheme of organization, and largely by their efforts it was brought forth and given to the profession. By them it has been nourished, cared for, and loved, as a mother would nourish, care for, and love her new-born babe. Their names will be inscribed on tablets immortal, and future generations will rise up to bless their memory.

At the St. Paul meeting of the American Medical Association, resolutions were adopted, an epitome of which is as follows:

1st. Federation of all the state and territorial associations with the American Medical Association.

2d. That all associations adopt a uniform plan of organization as regards certain fundamental principles.

3d. That each state association have two distinct branches, legislative and scientific.

4th. That the legislative branch be as small as compatible with representation from all county societies in the state or territory.

5th. That the scientific branch be composed of, and open to, all members of the county societies.

6th. That membership in the county society shall be, ipso facto, membership in the State Association.

Let it be observed that these are not arbitrary dictations, but rather recommendations, and they are reasonable. The state associations are factors of the great body of the American Medical Association. And if parts of the great whole, then why not parts having the same or similar qualities and involving the same principles? It would be as unwise to try to federate two state organizations, the one maintaining the old form and the other adopting the new form of organization, as it would have been in the early sixties to have federated Massachusetts and Virginia.

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*President's Address, delivered before the Minnesota State Medical Society, June 17, 1903.

By the new form of organization the American Medical Association has taken away from all county and district societies the right of direct representation, e. g., the Hennepin County Medical Society can no longer send delegates to the American Association, but must send them to the Minnesota State Medical Association, while the state in turn will be represented at the American Medical Association.

COUNTY SOCIETIES CANNOT BE REPRESENTED

As the state association of the state of Minnesota is now organized, the county societies cannot be fairly represented, indeed they cannot be represented at all by delegates, for there is no house of delegates, and no provision for delegate representation. In the legislative deliberations of the Association, Hennepin County can come in with her one hundred members or more, while Blue Earth County can come in with only her twenty-six. Some of the county societies, having caught the spirit of reorganization, have elected and sent delegates to this Association at this time, but it was clearly useless.

The spirit of the 20th century is concentration, and not diffusion, of power. But large bodies move slowly, and all large undertakings require time for their consummation. Rome was not built in a day. The great cathedral at Cologne, Germany, was seventy-three years in process of construction.

A COMMITTEE APPOINTED

At the annual meeting of this Association held in St. Paul in June, 1901, a committee of five, very able members, were appointed to revise the constitution and by-laws of the Minnesota State Association, so that they might conform to the recommendations of the American Medical Association. This committee considered the work before it very carefully, and did what seemed to them the best thing to do at that time, and the report was made to the Association at its Minneapolis meeting, June, 1902.

In the words of the committee the report was "Submitted with a good deal of diffidence." "The problem of reorganization, upon the lines laid down by the American Medical Association, is one that must be solved to the satisfaction of the county societies as well as of this body." The committee closed its report in the following words: "Experience has shown that no new constitution is likely to be perfect when first prepared. When put into use defects appear that have to be remedied by later amendments. Your committee, at least, believes that it has outlined a plan by which this Association may safely enter the new relations will county societies, and that the way is left open for any changes that may become necessary in the future." I think the committee very wisely left the way open for the future changes; for time has demonstrated that changes are necessary, if the profession of Minnesota wishes to keep in the forefront in the matter of reorganization.

CONSTITUTION AND BY-LAWS ADOPTED

It will be remembered that the report of the committee, together with the constitution and bylaws, was adopted. In the constitution and bylaws thus adopted a few very marked defects exist,—defects that will cripple county societies in their work of federation, and will place our State Association at a disadvantage in the galaxy of states in organization. The last paragraph in Article 4, reads as follows: "Physicians living in counties in which there is no county society in affiliation with this society, may become members by filing with the secretary of the State Medical Association an application setting forth their qualifications, and endorsed by at least two active members of this society. The names of such applicants shall be presented to the society at each annual meeting, and voted upon at the meeting of the following year."

Let us assume that there are thirty physicians in the state that would join the Association in this way; that the Association has its house of delegates; then we would have thirty active members who could in no way have a voice in the legislation of this body. This is a violation of both the letter and the spirit or re-organization. It is class legislation. These members are required to pay their dues into the State Association, hence it is taxation without representation, and is what our forefathers fought and bled to abolish. It is unconstitutional.

It has been said, "In a state like ours, membership in the State Association cannot be restricted to those who are members of local societies for obvious reasons; that in parts of the state there are counties, aye, whole tiers of counties, so sparsely settled that county societies are impossible." I am pleased to inform you that our state organizer, Dr. Fullerton, has demonstrated the fallacy of this argument by putting two, three, or more counties together forming one county, or better, perhaps, called district societies with definite boundaries. It is sincerely hoped, therefore, that the last paragraph of the article on membership in our present constitution may be speedily stricken out. The first half of number 15 of the by-laws reads as follows: "Every new member not admitted through a county society shall pay an initiation fee of $3.00 and his annual dues, and shall sign the constitution and by-laws." This, also, should be stricken out.

ACTIVE MEMBERS

The committee appointed at the St. Paul meeting on the re-organization of the profession of Minnesota recommended that "Active members shall consist of all members of the Association at the time of the adoption of the revised constitution, and all active members of the county societies who shall vote to affiliate themselves with this Association." This having been adopted at the Minneapolis meeting last year leaves in the Minnesota State Medical Association, by virtue of the first part of No. 15 of the by-laws, members who never could, and cannot at this time, be admitted into fellowship with their own county societies. I am glad to say that there are not many such, but there are a few. This is all wrong and contrary to the spirit of re-organization. But you may say that no ex-post-facto law can be passed, no action can be retroactive. I admit the truth of this; but the organization of the medical profession is re-organization, and not revision or reconstruction. The old man is crucified, and the new is resurrected. Like the fabled bird that destroyed itself and arose from its own ashes, so the new has arisen from the ashes of the old. This provision relating to active association members at the time of the adoption of the revised constitution should be expunged, and make membership in the county society an absolute and the only portal to the State Association, and all members who are not, and cannot become, members of a county society should be notified by the secretary that they are no longer members of this Association.

STATE OF MINNESOTA

The North Star State has a population of more than 2,000,000. Her soil is unexcelled in the broad expanse of territory bounded by the Atlantic on the east and the Pacific on the west. The fertility of the soil has a marked nutritive effect upon its food products, and we, as physicians, are as much interested in good pure food as we are in good pure drugs. Take wheat for example: the average amount of gluten in wheat raised in the United States is 11.9 per cent. The average amount of gluten in wheat raised in Minnesota is 13.75 per cent. Other crops are in proportion as regards quality. It is estimated that the total acreage under the plow and yet awaiting the farmer is 20,000,000.

DAIRY INTERESTS

We are likewise proud of our dairy interests. Under the very efficient management of Hon. W. W. P. McConnell, Minnesota has become the banner dairy state of the Union. Our butter to-day sells for from one to two cents more in the New York market than any other butter. Four banners have been given for the best dairy butter made in this country. Minnesota has three of these, and they may be seen in the capitol building of this city. Minnesota butter won the gold medal at the Paris exposition, and tied New York at the Pan-American in Buffalo. There are 800,000 milch cows in the state, 373,000 are contributing to the creameries, and from these 373,000 cows 66,000,000 pounds of butter were made in 1901, and sold for $14,000,000.

A glance at the map showing the location of our creameries, exhibits the fact that they are nearly all in the southern part of the state. With the immense acreage of pasture and farm lands in the northern part of the state, it is safe to estimate that in the not far future, our dairy interests will yield an annual income of $100,000,000, to the farmers of this state.

OTHER RESOURCES

But there are other resources within the soil, as well as on the top of it. The Lake Superior region is rich in iron ore. In 1896 Minnesota rose to the front position in the production of this mineral, having an estimated output of 4,000,000 tons annually. "As to the future of this great central district of North America," says Bancroft, "no one who has not seen it can form an adequate conception, while those who have examined and studied the subject, only become more sensible how much farther reason may sometimes go than imagination can venture to follow."

EDUCATION

Our State University and, in general, our educational facilities are nowhere to be excelled. Neither is our state behind in moral and religious teaching, as is evidenced by the many church spires rising heavenward in city and hamlet.

Neither does Minnesota occupy a second position in medical education. We have two most excellent colleges, and there is no class of graduates from any other school in this broad domain that make better practioners in medicine than those from our own universities. Minnesota is, and may well be proud, too, of her sons of Esculapius, for we have a score of physicians of national reputation, and some of inter-national, and our physicians and surgeons, even in many of the smaller towns and cross-road stations, occupy a front rank. Let it not be forgotten that Minnesota led the United States in her laws regulating the practice of medicine and the requirements of higher medical education. Therefore, we cannot, we must not, we will not, occupy other than the front rank in the grand work of re-organization.

STATES REORGANIZED

Michigan, Ohio, Illinois, Kentucky, Tennessee, West Virginia, Louisiana, Arkansas, Texas, Missouri, Iowa, Nebraska, California, South Dakota, Pennsylvania, Connecticut, and New Hampshire have adopted the constitution and by-laws as recommended by the committee of the American Medical Association, and several other states are ready to do so as soon as their annual meetings are held. Minnesota will surely join hands with these states.

REVISION OF THE CONSTITUTION AND BY-LAWS

Let me, therefore, recommend that steps be taken at once to revise our present constitution and by-laws, so that they will embody all the principles enumerated in the constitution of the American Medical Association, to be adopted by the several states of the Union. This will give us a house of delegates in which all the business of the Association will be transacted. Let the duties of this important body be clearly set forth and defined in the new by-laws. I hope I shall not be considered prolix if I speak at some length of the wisdom of providing in our constitution and by-laws for a council. Our state is divided into nine congressional districts. I desire to recommend that a council be created by and for the association, consisting of nine members, one for each congressional district. That these be elected for three years and the election so arranged that three councilors will be elected every year. Let it be provided that each councilor, in his respective district, act as organizer for his district, and thus do away with the further necessity of a state organizer, and collectively perform such other duties as are provided for in chapter 7 of the by-laws of the proposed constitution for the State Association.

A JOURNAL FOR THE ASSOCIATION

Your president further recommends that as soon as practical a journal be published by the Association, which shall be the organ of the Asciation and conducted by it, and furnished to every member at the lowest possible price that will enable the Association to meet expenses of publication. Let this journal supplant the dust-covered and shelf-worn annual transactions that now cost the Association several hundred dollars annually. I do not recommend, but I express the hope, that the medical journals now so ably published in this state, be merged into one splendid, well-edited journal, the organ of this Association—a journal that will do honor to the profession as well as to the State of Minnesota. Other states have done this, notably Michigan, a state which occupies the vanguard in the march of re-organization.

WORK OF STATE ORGANIZATION.

I wish to most heartily commend the excellent work done by Dr. W. S. Fullerton, state organizer. I would like to speak at length of his work, but he himself will give a report, and present it much better than I could do. I will briefly say his work began in August, 1902. At the time there were but ten county societies in the state. Now fifty-five counties are organized either as single county societies or as district societies, including two or more counties with definite boundary lines. These societies have adopted a pretty nearly uniform constitution and by-laws, which, I believe, are in line with the recommendation of the American Medical Association. I will not speak more of this work, except to say that there are eighty-three counties in the state, fifty-five are organized, leaving twenty-eight yet to be organized. If a council is created by and for this Association, as above recommended, I have full confidence that the good work of re-organization will go speedily forward.

MEDICAL LEGISLATION

Fellow workers, we now approach a subject with bowed heads, not in sorrow, perhaps, surely not in reverence, but in shame and disgust, not for the noble profession which we represent, but for the proud and progressive State of Minnesota. I refer to the medical legislation of last winter. Two bills were introduced, in which the profession of the state was deeply interested. One was entitled "Revised Medical Practice Act 1903." The other one was known as the osteopathic bill, or a bill designed to legalize osteopathy by appointing a board of examiners composed entirely of osteopaths, giving them power to examine and issue certificates to osteopathic physicians. The first was a model bill. It provided, first, for a uniform examination, to which all schools of practice must submit; secondly, it provided for reciprocity with other state boards of examiners; third, it provided for change in the penalty clause so as to bring cases within the jurisdiction of municipal courts.

The osteopathic bill is rank with class legislation. Let it be said, to the shame of our legislature, that the eminently fair and just bill, the "Medical Revision Act," was consigned to the waste-basket, while the osteopathic bill passed both houses, receiving a majority of four in the house and two in the senate, and was signed by the governor. I believe that we unitedly feel that this is a great calamity, and a blot upon the fair name of the State of Minnesota. We are not thus, however, to be intimidated. We will neither sulk nor cease to act. We have right upon our side, and our efforts shall not cease in behalf of just medical legislation until justice shall have prevailed. I am glad to note the fact that all members of the legislature, both in the house and senate, from Blue Earth County voted against the passage of the osteopathic bill, and I feel confident that organized, as we soon shall be, the united effort upon our part will secure the legislation which we justly demand.

I recommend, therefore, that this Association commence now the inauguration of a united movement to secure the enactment of the "Revised Medical Practice Act," substantially as prepared last winter. If the county societies all over the state will unite in an effort toward this end, and labor each with its own legislators I am fully convinced that victory will be ours. Other states have done it, and we can do it.

CONCLUSION

In conclusion let me recommend again that the Minnesota State Medical Association revise its constitution and by-laws, under which it now operates, so as to conform as nearly as local conditions will permit to the constitution and by-laws recommended by the American Medical Association, for state association, in order that hencetion for state associations in order that henceegates and a council consisting of nine members who in addition to their other duties shall act as organizers in their respective districts.

Article 9 of the constitution reads as follows: "This constitution may be amended by a unanimous vote of the members present at any regular meeting, or by two-thirds vote of the members present after one year's previous motion or notice to amend has been given." I believe it is desirable, and I recommend that the present constitution and by-laws be referred to a committee of five on revision; that this committee be instructed to take up the matter at once, and report at Friday morning's general session, such report to be made a special order of business.

Then, provided the report shall not receive a unanimous vote, I would recommend that a committee of five on revision be appointed by the incoming president to report at the next annual meeting.

The Medical Association of the State of Minnesota is incorporated; it can sue and be sued, and it can furnish charters to county societies. I therefore recommend that it furnish a neatly gotten up charter to each county society in affiliation with this Association.

All of which is respectfully submitted for your consideration.

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JULY 1, 1903

THE STATE MEDICAL SOCIETY

In many particulars the meeting of the State Medical Society at St. Paul was a disappointment.

The attendance was small, smaller than a full meeting of the Hennepin County Medical Society. The failure to attend was due very largely to the neglect of the executive committee to sufficiently advertise the meeting and in getting out the preliminary program. The old constitution provided for the distribution of programs ten days before the meeting. As a matter of fact a few programs reached some of the members two or three days before the meeting, and a few on the day of the meeting, while the remainder did not reach many members at all. The printer was blamed for the delay. One member of the committee was held responsible, and all regretted the delay, but too late.

The number of papers was small, and many were below standard. The surgical section, the most scientific and interesting, was fairly well attended, and the discussion was active and instructive. The section in medicine and hygiene entertained a small audience, and the discussion was dull.

The entertainment of the society was limited to a smoker.

The acoustic properties of the council chamber were not the best, and it was difficult to hear many of the essayists. Many doctors are diffident, and their voices are better adapted to the sick-room than to a hall of oratory.

The business of the society was well planned, and promptly executed. The reorganization of the society on the lines suggested by the American Medical Association was adopted, and hereafter the business of the meeting will be conducted by a "House of Delegates" appointed from the several county societies. The membership of the State Association is rapidly increasing, and it is expected to reach the twelve hundred mark before the next meeting of the American Medical Association. The State Association is now entitled to two members of the "House of Delegates" of the A. M. A. Dr. Wm. Davis, of St. Paul, and Dr. W. A. Hall, of Minneapolis, will represent the State Association next year.

Dr. Chas. L. Greene, of St. Paul, was elected president. Dr. Thos. McDavitt was elected corresponding secretary, and Dr. R. J. Hill was elected treasurer. Dr. R. C. Dugan, of Eyota, was elected chairman of the surgical section; Dr. S. P. Rees, of Minneapolis, chairman of medicine, and Dr. J. M. Robinson, of Duluth, chairman of the section of hygiene.

The next meeting will be held in Minneapolis next year, probably before the meeting of the A. M. A. The members of the association may confidently expect full information regarding the meeting, its program, and entertainment at least thirty days before the day of the meeting. The time and place of meeting will be announced as soon as the council can make their arrangements. An early meeting is suggested in order that the alumni of the universities can attend both meetings at one time, and within a short time before the A. M. A.

THE TREATMENT OF PLEURISY

How many physicians treat pleurisy with effusion by counter-irritation and internal medication? The majority, doubtless. A paper, short and crisp, in the Journal of Medical Science for December, 1902, by Dr. Delafield, simplifies the treatment by aspiration alone. The distinguished author recites his early teaching by drugs, and now presents an array of cases in which he omitted drugs, and cured his patients by aspirating as soon as fluid appeared in the pleural cavity.

If the fluid re-accumulates aspiration is performed again. His cases get well more rapidly, and with less suffering and less danger of complications. It matters little whether the pleurisy is simple or due to more aggravating causes. Whenever and under whatever circumstances fluid accumulates in the sac, it is withdrawn.

It is a well known fact that inflammations within the chest cavity in certain predisposed individuals lead to the development of fluid, which, if allowed to remain, may become tubercular in character, and later necessitate removal by aspiration or rib resection. Frequently a fluid in the pleural cavity is called a pneumonia and treated as such until it is evident that no resolution has taken place, and the presence of fluid is detected after a long and protracted illness. No harm can come from the careful introduction of a needle with proper precaution. It may materially aid the physician in making an early diagnosis, and relieve symptoms, as well as hasten a recovery.

Frequent and painstaking examination of the chest will determine the presence of fluids. Its early removal is then imperative, and the results will justify the physician in his endeavors.

SWEDISH MOVEMENT AND MASSAGE INSTITUTE

The LANCET again calls attention to the above-named institution to interest the members of the profession. This institute is the only one of its kind in this country, and, in order to make it a success, it must be encouraged by medical men. It is managed and controlled by physicians who give it their personal support. It not only aims to supply a reliable place where patients can be intelligently treated by competent operators, but it offers a plan of instruction by lectures and clinics where operators can be taught the science. The Institute will receive pupils, preferably trained nurses, and other who are qualified to appreciate the value of such training. No incompetent or uneducated pupils will be admitted.

Physicians in the country towns should encourage pupils to attend, in order that they may have operators at their command at home.

The value of Swedish movements and massage in the treatment of many diseases is inestimable, and physicians and patients are beginning to learn the necessity of such aids in therapy.

From a commercial standpoint it is a good thing. A well-trained operator can command more for such service than the trained nurse who is uninstructed in this branch of medicine. The increased number of operators, under the direction of the physician, will do much to dispel the popular delusion of osteopathy, and will make the public understand more fully that massage is only an adjunct for treatment and not a cure-all.

The course of instruction is six months. The second term of the Institute begins the first of October.

DR. I. N. LOVE.

The sudden and unexpected death of a prominent and successful physician is a shock not only to the community in which he resides, but to the profession in general.

Dr. I. N. Love, of New York, while nearing home on an ocean steamer, fell dead when he arose to deliver an address presenting resolutions to the ship's officers.

Dr. Love formerly practiced in St. Louis, and was well known in the South. Five years ago he was called to the Policlinic in New York where he rapidly became popular and acquired an extensive consultation practice. He was a jovial man, an optimist of optimists, a brilliant writer, and a hard worker in his profession. His cheerful and refreshing attitude in the sick-room, the courage he inspired by his manner, and his common-sense advise did more than the varied therapeutics of a score of men.

Such men are needed in the profession to overcome the tendencies of the alarmists. Good cheer, an optimistic and wholesome word of encouragement, careful attention to details, and a few drugs are the therapeutic aids of the successful physician. Such a man was Dr. Love.

AN EPIDEMIC OF TYPHUS OR TYPHOID

The town of Kenmare, N. D., is overwhelmed by an epidemic so alarming in extent as to suggest typhus fever. Kenmare is in the lignite mining district, and it is thought the contagion was introduced by foreigners who are employed in the mines. The cases have been very severe, reaching the climax in fourteen days, and terminating in death or rapid recovery. From its virulence and short duration it resembles typhus, yet many of the otherwise typical symptoms are wanting. Physicians and nurses are in demand, and all are overworked. One physician has already succumbed to the disease, and two others are sick with the disease in a hospital in an adjoining town, Minot.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

R. O. Beard, M. D., Secretary

Stated meeting, Thursday evening, June 4, 1903; the president, Dr. J. Warren Little, in the chair.

Dr. T. S. Roberts, of Minneapolis, presented a specimen, with report of case, of atheromatous degeneration of the heart and adjacent great vessels, with aneurismal dilation of the latter and cardiac dilation. The case was one of syphilitic origin, and was remarkable for the fact that no murmurs had been discernable by repeated clinical examinations.

Dr. J. Clark Stewart, of Minneapolis, discussed the specimen, calling attention to the coronary degeneration and consequent destruction of the heart tissue, and the excessive thinning of the inter-ventricular septum.

Dr. Arthur A. Law, of Minneapolis, presented a thesis entitled "Bullet Wounds in Modern Warfare."

Dr. F. A. Dunsmoor, of Minneapolis, referred to the relative infrequency of bullet wounds in large cities. He cited a case illustrative of the fatality of certain classes of injury. Military surgery had been fruitful of fatality. Hip-joint wounds, as well as abdominal wounds, by gunshot, are better let alone than operated upon. A reason for the lesser danger of bullet wounds above the umbilicus, as compared with those below it, lay in the fewer perforations which were apt to be involved in the former than in the latter.

Dr. J. E. Moore, of Minneapolis, asked whether the avoidance of abdominal operation in military practice would be extended by Dr. Law to domestic practice.

Dr. Law replied in the negative.

Dr. J. H. Dunn, of Minneapolis, enlarged upon the marked difference in the character of bullet wounds in modern warfare as compared with those of earlier history. These differences largely determined the distinctions of treatment. He applied his argument to the variable conditions of civil practice, and maintained that the same principles might be followed therein.

Dr. Law, in closing the discussion, emphasized the slight range of aseptic treatment in gunshot wounds, and the great gain of the let-alone treatment and the advantage of the modern steel-jacketed bullet.

BOOK NOTICES

Clinical Treatise on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Prof. Dr. Carl von Noorden, Physician-in-Chief to the City Hospital, Frankfort am Main. Authorized American Edition, Translated Under the Direction of Boardman Reed, M. D., Professor of Diseases of the Gastro-Intestinal Tract, Hygiene and Climatology, Dept. of Medicine, Temple College; Physician to the Samaritan Hospital, Philadelphia, etc.: Part I, Obesity, Small 8-vo., Cloth, 50 Cents; Part II, Nephritis, Cloth, $1.00; Part III, Colitis (Colica Mucosa), Small 8vo., 50 cents.

These excellent monographs written on subjects of as keen interest as obesity, nephritis, and colitis, by such an authority as Dr. Von Noorden, cannot fail to receive the hearty appreciation of the internist and general practitioner. They are written in true German analytical style, which probes the subject to the bottom. The pathology is discussed in the light of modern microscopical and physiological chemistry investigations, and the effect of treatment judged by the same methods. They contain a criticism of the popular methods of treating these diseases, and then Dr. Von Noorden's original work on the subject. His treatment is certainly original in many ways, as evidenced by his objection to milk or even water in certain stages of acute nephritis.

In the volume on obesity he condemns the practice of "reducing" every obese person by one certain "method," and advises intelligent selection of cases and methods, and in many cases no reduction whatever. The one month of rigorous treatment, followed by eleven months of intemperance, is also condemned.

He also discusses the treatment of obesity when complicated by organic disease.

The volume on nephritis is, as the American editor says, "bold, original and somewhat iconoclastic. The author rides rough-shod over moss-covered tradition. Nothing is sacred to him but indubitably demonstrated truth."

After discussing the popular treatment of nephritis he very forcibly makes the point that it is necessary to treat the patient, not the disease; that is, do not save the kidneys and ruin the rest of the organism. The amount of albumen, he states, is no guide to the condition or treatment. As to the diet, the effect on the kidneys is produced by the *end products of elimination* into which that dietary is converted by metabolism, and the diet should be governed by the kind and quantity of these end products and their effect on the kidneys.

After an elaborate discussion of the pathology of colica mucosa he concludes that it is a purely functional irritability and overactivity of the mucous glands of the large bowel in neurasthenic or hysterical persons who have been constipated for a long time. The treatment includes the treatment of the local symptoms, the constipation, and the general nervous condition and is given in detail.

HERBERT W. JONES.

NEWS ITEMS

Dr. Fred E. Walker, of Worthington, has gone east for special study.

Dr. C. E. Fawcett, of Stewartville, is taking a special course in Chicago.

Dr. H. H. Critchfield, of Hunter, N. D., is in Chicago doing special work.

Dr. A. D. Hard, formerly of Worthington, has decided to locate in Marshall.

Dr. G. B. Burness, of Mandan, N. D., has been appointed physician in the state reform school.

Dr. J. L. Shellman has been added to the staff of the Adams Hospital at Hibbing.

Dr. F. M. Archibald, of Atwater, has been taking a special course in Chicago.

Young America is to have a hospital. A building 38x50, three stories, will be erected.

Dr. L. P. Salsness, a graduate of the State University, has located at Norwich, N. D.

Dr. Alexander Corpron is reported to have left Minnesota Lake under a financial cloud.

Dr. O. C. Quitmeyer, a Hamline graduate, Class of '02, has located at Parker's Prairie.

Dr. J. S. Hamilton, of Perth, N. D., and Miss Alice B. Wilson, were married last month.

Dr. J. D. Windell, of Minot, N. D., will build a hospital to accommodate fifty patients.

Dr. A. M. Call has located at Rugby, N. D., and gone into partnership with Dr. I. M. McBride.

Dr. C. J. Maercklein, who has been assisting Dr. Henslin, at LeRoy, has gone into practice at that place.

Dr. M. A. Lee, of Edmore, N. D., and Miss Lena Graving, of Grand Forks, were married last month.

Dr. J. B. White, of Faribault, has completed a special course at the Post-Graduate Medical School of Chicago.

Dr. E. H. Shrodes, of Excelsior, has taken out a patent for a lantern holder, designed to carry a light in front of a horse.

Dr. M. D. Silver, of Baltimore, Md., has located in Oakes, N. D., and has formed a partnership with Dr. H. P. Boardman.

Dr. W. A. Hobday has resumed practice at Marshall after an absence of several months, being a portion of the time in Europe.

Dr. Frank Davis, a graduate of the state University and of Rush, has located at Adams, taking the practice of Dr. H. L. Knight.

Dr. E. J. Davis, who has been practicing for some time at Weiser, Idaho, has decided to return to Mankato, and resume practice there.

Dr. B. E. Lord is temporarily in charge of the practice of Dr. Kelman, of Henderson. The latter is doing post-graduate work in Montreal.

Dr. J. G. Cross, of Rochester, who has been spending some months in Vienna in special study, has returned, and has located in Minneapolis for the practice of internal medicine.

Dr. A. E. Levinson, who graduated from the State University, Class of 1901, died last month at Duluth, after an operation for appendicitis. Dr. Levinson's home was in Minneapolis.

At the annual meeting of the trustees of Hamline University last month, Dr. G. C. Barton was elected dean of the Medical Department, Dr. Leo M. Crafts having refused to retain the office longer. Dr. Crafts has served as dean for six years and he felt that he was entitled to a rest.

WANTED

Harmony, Minn., wants a physician and a dentist. It is mainly a Scandinavian neighborhood, and a Scandinavian physician is preferred. Full information may be obtained of K. O. Olson, the druggist at that place.

NORTHWESTERN LANCET

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THE PRESENT STATUS OF SURGERY OF THE STOMACH*

By William J. Mayo, A. M., M. D.

Surgeon to St. Mary's Hospital

ROCHESTER, MINN.

We have within a short time gone over the records of somewhat over 900 operations upon the organs contained within the upper abdominal zone. A number of points of interest were developed. One of the most notable features was the exceedingly close relationship which existed between the gall-bladder and bile passages, the stomach, the duodenum, and the pancreas. The association of function and the continuity of mucous surface make the disease of any one organ a menace to the integrity of the others. The gall-bladder and stomach were the organs primarily affected in the large majority of cases. The duodenum, from its peculiar situation, seemed to act as a buffer, and was secondarily involved in about an equal proportion of cases, from gall-stone disease and gastric ulcer. In the latter instance the ulcer was in the first portion of the duodenum, seemingly due to the acid gastric secretions eroding the mucous membrane at a point above the opening of the common duct, with its alkaline fluids. The pancreas was also usually affected secondary to gall-stone disease or a duodenitis.

It is not to be wondered at that the exact pathological diagnosis has been difficult to arrive at in many of the cases, particularly as this field of work is comparatively new. Abdominal surgery owes much to pelvic surgery, which was first in the field; the ease of diagnosis and the remarkable results of operative procedures in the pelvis as contrasted with the fatality of the surgery of the abdomen in previous times, gave an impetus to abdominal work which at once placed it to the front and rendered it the pride of professional achievement. Experience gained, ofttimes as the result of mistaken zeal in the performance of unnecessary and mutilating operations upon the ovaries and tubes, and later the uterus, has since been turned to good account in the territory of gastro-intestinal disease. Pelvic surgery has reached its place—much more conservative and less often resorted to than five to ten years ago. Its relative importance in the field it introduced so brilliantly is probably now not better than third place. The appendix, after much discussion, has also reached its proper position in surgery, and as much can be said of gall-stone disease, the extent and importance of which is but of late appreciated.

Let me call your attention to the fact that the stomach is destined to play a great part in the surgery of the future. Just as the appendix followed pelvic surgery to be accepted and in turn replaced by the diseases of the gall-bladder, so now the stomach, and with it the correlated duodenum and pancreas, is to be the center of surgical observation. It is one of the curious phases of modern medicine that surgery leads the way. With the accumulated experience of thousands of post-mortem revelations, how little did we know about the disease of the ovaries and tubes, extra-uterine pregnancy, and appendicitis! Gallstones were looked upon as innocent autopsy "findings," and to-day the correct interpretation of gastric phenomena is in an equally unsatisfactory condition.

Annual Address in Surgery, Wisconsin State Medical Society, May 4, 1903.

Surgery of the stomach has been slow to advance. It had to live down a bad name. The early operations of the Billroth school for cancer, before modern abdominal surgery was properly understood, gave a discouraging mortality, the statistics of which still hamper and embarrass our work. Billroth, with the courage of conviction, attacked malignant disease of the gastric cavity, because then, as now, it was the victim's only chance; and speaking of his results, he sorrowfully remarked: "The patients left the operating-room in profound shock, from which some of them recovered." Nor was the condition of benign disease much better. Operations for the deadly complications of ulcer, such as perforation and hemorrhage, gave a frightful mortality. No wonder that this work has been looked upon with dread by the physician, and that he has continued "the sins of medical omission," having the results of "surgical commission" before his eyes.

Gastric surgery has been judged by its results in late operations for cancer and fatal complications occurring in the course of benign disease. We might as well condemn operations for appendicitis by the results of surgical operations for the general suppurative peritonitis which it sometimes caused. As a matter of fact, the stomach is one of the most favorable organs for operative attack. Easily accessible to a large extent of its surface, with a splendid blood-supply from four sources, it permits of a freedom of work, and a certainty of healing, not exceeded by any organ in the abdomen; and by no means least is the fact that its cavity can be rendered reasonably sterile before operation. The great difficulty to be surmounted is in obtaining a correct diagnosis. We have seen "gastralgia" disappear after the removal of gall-stones, and dyspepsia relieved by the excision of the chronically inflamed appendix. The field of stomach surgery is being gradually relieved of a number of these parasites of diagnostic obscurity. It will no longer do to give a blanket diagnosis of "stomach trouble;" and the symptoms of the patient, instead of being considered the disease, must be referred to their proper pathological source.

Compare the present knowledge of appendicitis with the complex symptomatic diagnosis of former days: obstruction of the bowels, inflammation of the bowels, peritonitis, and so forth—it would be tedious to merely name them. They have gone the way of "pelvic cellulitis." It can be laid down as an axiom that ignorance breeds complexity, and one need not be a prophet to foretell the disappearance of more than half of the so-called "diseases of the stomach" of our medical text-books.

From a surgical standpoint the stomach is comparable to the magazine of a coal-stove, a selffeeder, so to speak, into the small intestine, where the real digestion and absorption take place. It has a few important duties to perform. With a weak solution of hydrochloric acid and pepsin the food masses are softened and macerated, and the temperature of the material is equalized; and with the powerful musculature of the pyloric end the whole is pulverized, and slowly fed into the duodenum.

Upon what shall we base a diagnosis of a surgical lesion of the stomach? Our diagnostic means can be classified in three groups: First, the history of the patient; second, the physical outlines of the stomach, including the use of the stomach-tube to develop stagnation or retention of food; and, third, laboratory methods, including test-meals, chemistry and bacteriology, and microscopy. My colleagues, Drs. Graham and Millet, have the records of nearly 1,100 examinations of the gastric contents, in conjunction with the history and the size and position of the stomach and pylorus. Of these cases over 300 came to operation. The diagnosis based on the history and physical outlines of the stomach and the rational signs and symptoms, gave a correct diagnosis in over 80 per cent of the cases. The laboratory examinations, including test-meals and so forth, were of value in only a small percentage of cases, and then only as corroboratory evidence. Alone they were next to worthless. I do not mean to discourage such tests, but I must protest against the time spent in waiting until certain chemical phenomena appear before recommending operation. This is especially true as to the early diagnosis of cancer. Time and again have we known patients held for weeks, waiting for these supposedly valuable diagnostic appearances, until the developing tumor and cachexia discouraged the enthusiastic diagnostician, and sent a hopeless patient to the surgeon.

Exploratory incision is the only hope for the patient with cancer of the stomach, and a suspicion of this disease should compel the physician to explain, and let the victim and his friends choose between exploration and procrastination. In developing the outlines of the stomach an ordinary Davidson syringe and a stomach-tube are sufficient. In this way air can be pumped into the stomach and allowed to escape again and again, until a careful mapping out is accomplished. The carbonic acid gas test is often painful, and does not give time enough for thorough work. There are also a number of deaths recorded from the sudden distention, rupturing a diseased gastric wall. The use of the stomach-tube is also very valuable in showing the actual results of gastric function, not on test-meals necessarily, but as to whether the ordinary meal is too long retained in the stomach. For instance, remnants of the evening meal found in the stomach in the morning on several occasions, shows mechanical obstruction at the pylorus. Inspection for gastric waves so commonly seen in obstruction at the pylorus, splashing sounds, and so forth is also of value.

I have no desire to go into the question of differential diagnosis, but I do wish to call the attention of the general practitioner to the fact that the refinement of technical diagnosis are often useless and occasionally harmful in causing delay, and that the sensible practitioner with the few simple means at his command, is perfectly capable of arriving at a reasonable diagnosis, and will at least be able to direct the majority of his patients needing surgical treatment to the surgeon in time to be of benefit.

There are two great groups of surgical lesions of the stomach: First, those of benign origin and usually inflammatory in character with ulcer as the type; second, cancer of the stomach.

Ulcer of the stomach has been heretofore studied from its complications,—such as perforation and hemorrhage,—and from autopsy findings. This has been unfortunate, as it has exaggerated fatal secondary phenomena and has thrown but little light upon the condition during the period of chronic disability, in which surgery would be a well planned attempt to cure rather than a last resort. Acute ulcer is usually diagnosticated. The frequency of sudden perforation and hemorrhage in this variety of lesion has enabled more accurate understanding of the subject; but we must not take these symptoms to be the standard for chronic gastric ulcer. In this lies the frequent failure to recognize chronic ulceration.

Time will not permit a general discussion of the diagnosis of chronic gastric ulcer; but I will briefly analyze the question of pain.

Pain is the most characteristic symptom of the old ulcer, and the nearer the lesion to the pylorus the more cramp-like the pain, while in the duodenum it may almost exactly simulate gall-stone colic. Chronic ulcer causes slow and painful digestion, and the patient is careful of his diet and has usually one of his own, the value of which experience has taught him. The symptoms are not steady, and days or weeks of distress are followed by intervals more or less prolonged of comparative comfort. The pain symptom is often variable even during the period of one day, one or more meals giving no trouble and the next one perhaps causing much suffering. Unlike acute ulcer, hemorrhage and vomiting are not common symptoms, the latter being a late phenomenon usually due to secondary contraction and obstruction at the pylorus. Acute ulcer is usually cured by rest. The chronic ulcer is cured occasionally, but it gets its name because it has not been cured, and, like chronic appendicitis and gall-stones, the same case may be medically cured a score or more of times. Luebe put the death-rate of ulcer at 25 per cent, and says that if curable, four or five weeks should be the limit of required time. A very recent study of 500 cases treated at the London hospital, between 1897 and 1902, is most interesting: 211 had had previous similar attacks, in other words, were known to have had ulcer with intervals of apparent cure; in the remainder the symptoms had been more or less continuous, 18 per cent died and 42 per cent were not cured at the time of discharge. A total of 60 per cent died or were not cured, and of the 40 per cent supposed to be cured—who can tell the future course of these patients?

The large majority of cases of chronic ulcer of the stomach are surgical patients, and after a reasonable trial of medical treatment should be so considered.

The function of the stomach is interfered with mechanically, first, by obstruction at the outlet, which prevents proper egress of the food; secondly, by disease of the pyloric portion, which interferes with its muscular action; and, thirdly, by disease of the fundus of the stomach, which prevents proper reservoir function. Pyloric obstruction gives unmistakable evidence of its presence, gastric dilatation, stagnation, and retention of food causing fermentation, late vomiting, and emaciation. These cases are seen in all stages, from the slight temporary interference with digestion to the most marked degree of disability. The condition can be aptly compared to a valvular heart lesion: spells of dilatation, alternating with compensation through hypertrophy, give periods of comparative health after a more or less prolonged train of gastric insufficiency.

Benign obstructions are usually the late results of the healing of a gastric ulcer, and many times the symptoms are such as to lead to the diagnosis of cancer, and I have no doubt many victims are allowed to die under the impression of a necessarily fatal ending.

It must not be forgotten that, like cancer, chronic ulcer is a disease of adult life, in this respect differing from the acute form, which is most common in adolescent females. Drainage operations give marvelous relief in benign obstruction at the pylorus; a patient at the verge of starvation in a few weeks becomes a picture of health. Gastro-enterostomy has been the operation of choice; but in certain cases the newer pyloroplastic method of Mikulicz or the gastro-duodenostomy of Finney is also indicated, and gives in some respects even more desirable results.

The second group of cases is those in which ulcer exists in the muscular pyloric region, preventing the proper mixing of the food material. In over 200 operations for benign disease of the stomach, we have found ulcers capable of giving symptoms requiring operation, nearly always in that segment of the stomach lying to the right of the cardiac orifice and having the lesser curvature as its superior border. Its inferior border on the greater curvature does not extend so great a distance to the left of the pylorus. The fundus of the stomach has but feeble muscular action; it slowly compresses the food into the pyloric antrum, and the latter, by a piston-like action, strongly forces the food backward into the fundus as well as forward into the duodenum. Ulcer in the pyloric region gives rise to great pain and distress from the so-called "pyloric spasm." The latter is not confined to the pyloric sphincter, but extends to all or any part of this muscular region. The symptoms are pain and indigestion, gas, hypersecretion, and so forth,—the "pyloric syndrome" of Hartmann. Many of these cases heal in time, and the resulting cicatrix produces the obstructions which were discussed in group one. The proper surgical treatment of such cases is not settled, and no one method will apply to all cases. The dilation is not extreme, as the obstruction is due to spasm and is essentially temporary in character. Gastro-enterostomy on the cardiac side, and usually at a point directly opposite the esophageal opening, gives splendid temporary results; but with the healing of the ulcer, which quickly takes place as soon as the food is prevented from passing through the ulcerated area, the spasm relaxes and the pyloric region begins to functionate normally. The gastro-intestinal fistula often contracts, or the double stomach drainage of itself gives future trouble. The plastic operations about the pylorus so useful in benign strictures are probably not efficient, as, no matter how large the outlet, the food must still pass through the ulcerated area before reaching the pylorus, and that obstruction has no hand in the production of ulcer is shown by the typical examples in the duodenum.

Excision of the ulcer itself is sometimes feasible, but unfortunately the lesion is often multiple and may be hard to detect. Rodman suggests that in certain cases excision of the pyloric end of the stomach would be the operation of choice, as it would not only permanently cure the condition, but would also prevent the possibility of secondary malignant degeneration, which has been a not infrequent occurrence. I believe that this is right.

The third group, in which the reservoir function of the stomach is interfered with, is usually the result of extensive ulceration and cicatricial stenosis in the body of the stomach, causing hour-glass contraction, the differential diagnosis of which time will not permit me to go into. It is interesting to note that hour-glass stenosis may be multiple and that a contraction at the pylorus also very commonly exists, so that a combination of gastrogastrostomy and gastro-enterostomy is usually indicated.

Let me add a few words in regard to some dilatations of the stomach not of organic origin, such as the so-called atonic dilatations often found in neurasthenic individuals and without the pyloric syndrome of Hartmann. In these cases, there is no retention and little stagnation of food. As a rule, these patients are not benefited by operation. This is also true of gastroptosis, which we have found to be present in over half the cases of movable kidney. Relaxed conditions in the neurasthenic state are not often permanently benefited by surgical operation. It is one of the misfortunes of surgical progress that neurasthenic symptoms are too often taken for organic disease. We have but to look back on the discredit thrown upon surgery by the mutilating operations upon the pelvic organs of women to impel us to go slow on that numerous class of neurasthenic stomachs, and before we operate for ulcer let us be sure the lesion exists elsewhere than in the mind of the patient.

In conclusion I wish to speak briefly in regard to cancer of the stomach. Early operation is pre-requisite, and diagnostic exploratory incision is necessary. We have operated upon 115 cancers of the stomach. Of these 27 were radical extirpations; 5 died within a month, and one later from another cause,—but too early to know the ultimate result. Of the 21 who recovered, the average length of life as over a year. It is surprising how few failed to live 12 months or more. One lived three years and seven months; several are alive over two years. I am convinced that cancer of the stomach in five years will give as good ultimate results after excision as breast operations. Sixty per cent of cancers are located in the pyloric portion, that is, in the movable part of the stomach. The lymphatic arrangements are the same as the vascular, and the dome of the stomach is isolated from this portion, having a different vascular and lymphatic connection. If all of the lesser curvature be removed with the corresponding lesser omentum and all of the body and greater curvature to the left gastro-epiploic artery, the results in cancer of the pylorus should nearly equal what might be expected after complete gastrectomy. The remaining portion of the stomach enables intestinal anastomosis to be made with considerable ease, and the gastric pouch rapidly enlarges to assume the function of the stomach.

THE CIRCULATION OF THE INTERNAL GENITALS CONTAINING MYOMATA

By Byron Robinson, B. S., M. D.

CHICAGO

The accompanying illustration secured through the *x*-ray and bromide method excellently demonstrates the influence of uterine myomata on the arteria uterina ovarica. No description is necessary with such an accurate presentation from nature. Special attention may be called to the long-coiled cervical loop (2, 3, 4), one on each side. The long arterio-ureteral loop with left 2.

Fig. 1 represents a subject 53 years of age with four multinodular myomata in the uterine wall about the size of prairie chicken eggs. The specimen I injected after removal from the body with red lead mixed with starch. It was *x*-rayed, and a bromide illustration was produced. Dr. Scholer, the artist, strengthened some of the weaker and repaired some of the defective shadows of vessels. The fact to observe is that although this subject is 53 years of age the presence of uterine myomata has so stimulated the arteria uterina ovarica that it is actually larger than is usual at 35 years of age. For size of vessels it resembles a pregnant uterus at five months.

Note the loops of the uterine segment (4, 5, 6), and the distinct pelvic floor segment (1, 2, 3, 4). The ureters are marked by a wire (black line), which passed through them. The fact that the presence of uterine myomata stimulates the utero-ovarian artery to large size, resembling that of gestation, accounts for the continued and excessive hemorrhages of subjects possessing them. The cervical loop is very long and large on each side. The oviducal and ovarian segment are not so prominent as the pelvic floor and uterine segments. Observe that the smaller finer rami laterales uteri usually noted in active sexual life are not present, especially in the cervix. Also observe that rami laterales uteri on the left 4 and on the right 5 are very prominent, large, and strong. These supply directly the large uterine volume and length it is compelled to coil in various directions as noted in this beautiful *x*-ray and half-tone.

1. Origin of uterine artery. The artery of the round ligament injected.

1, 2, 3, 4, Pelvic floor.

4, 5, 6, uterine.

The segments of the 6, 7, 9-6, 8, 9, oviducal. utero-ovarian artery 9, 10, 11, 12, ovarian 13, 14, 15.

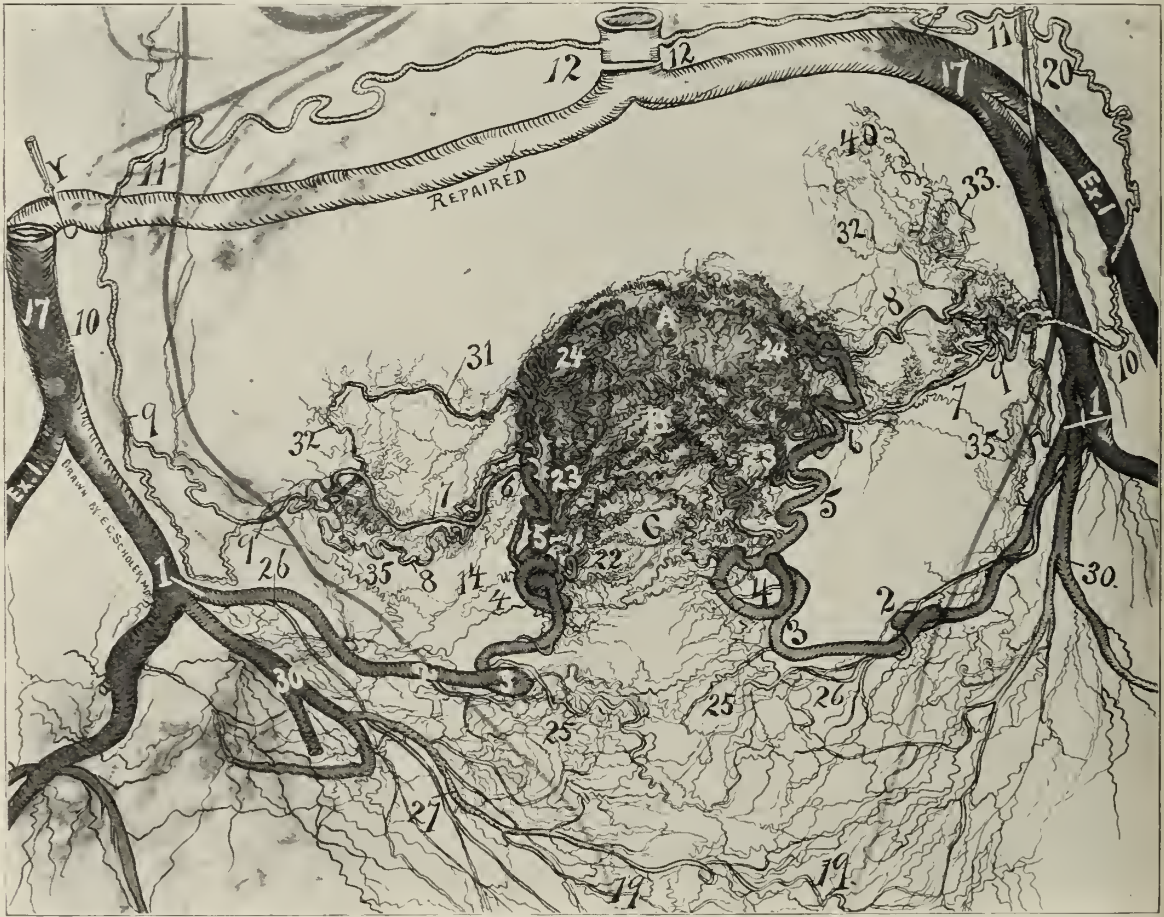

Fig. 1

myomata. This specimen resembles that containing the sarcoma of the endometrium in which the utero-ovarian artery was stimulated to the dimensions noted at the end of a three months' gestation.

In gestation the utero-ovarian artery rapidly increases in length and volume, i. e., however extended on account of the expanding uterus.

In uterine myomata the uterus has similar irritation as in gestation, but the uterus remains small, and hence when the artery increases in

The central longitudinal oligemic uterine zone does not resemble the resting uterus, but that of a pregnant one. The cervicocorporeal oligemic uterine zone is very manifest. The ovarian vascular circle (9, 9) (6, 8, 9,—6, 7, 9) is double on the right. In hysterectomy by careful dissection one can isolate the utero-ovarion artery and ligate. Also the genitals can be defunctionated (as to labor and abortion) by longitudinal bisection of the uterus with endometrectomy and partial myometrectomy.

A REVIEW OF THE WORK DONE FOR THE CORRECTION OF DEFORMITY OF THE NOSE BY THE SUBCUTANEOUS INJECTION OF PARAFFIN, WITH A REPORT OF A CASE OF THE AUTHOR'S

By H. McI. Morton, M. S., M. D.

Eye and Ear Surgeon to the Swedish Hospital, and Consulting Surgeon to the Asbury Methodist Hospital Minneapolis

MINNEAPOLIS

The introduction of paraffin as a means to correct nasal deformities, as well as its application to meet some special exigencies in surgical practice, is as recent as the year 1900. While its practical application to surgical needs was in large measure brought about by Gursuny of Vienna at about this time, it is just and proper to note that Corning of New York as early as the year 1891, through a communication in the New York Medical Journal, advocated the use of certain solidifying oils as a means to retain medicines introduced subcutaneously, the idea being that the solidifying oil, by excluding the introduced medicinal agent from the rapid action of the agents of absorption, prolonged their physiological action. Later he introduced the same agent between the divided ends of sensory nerves to arrest neuralgic pains.

While this article relates especially to the use of these solidifying oils in the correction of departures from the normal contour of the nose, it is interesting, as we proceed, to note that Gursuny first employed melted paraffin in the scrotum of a man in whom tuberculous disease had rendered necessary the removal of both testicles, and who was desirous of passing an examination for the public service. The same agent has been employed by several surgeons for cases of incontinence of urine in females after destruction of the sphincter muscle, and also in prolapse of the anterior vaginal wall. It has also been used after the removal of malignant growth of the rectum, where the sphincter action of the bowel has been impaired; for cosmetic effect after amputation of the mammæ, resection of ribs, removal of the jaw; and for smallpox pitting. In fact, wherever support to certain sunken skin areas has been needed it has been introduced into surgical practice with most satisfactory results, and especially so in the correction of deformities of the ear. Alt has used it to fill up the depressions after mastoid operations and in the deformities of the auricle following upon perichrondritis. I myself have a patient in whom considerable deformity to the pinna has followed a true chondritis, in whom I shall soon inject melted paraffin with, I have reason to think, an excellent chance of success.

Rohmer has injected paraffin into the orbital cavity to serve as the cushion of support for the prothesis, a sort of substitute for the Mules sphere. After removal of the anterior wall of the frontal sinus it has been used to obliterate the ofttimes marked falling in of the skin against the inner wall of the obliterated sinus. Reports of its use in cases of atrophic rhinitis would indicate that we may yet find in submucous injections of paraffin a valuable remedy for what has been an exceedingly intractable disease.

Its special use in the correction of nasal deformity has been attended with many excellent results, and on the whole the method has been what we may call a demonstrated success. Lately the medical press has contained much upon this subject, and many reports with their accompanying illustrations indicate a satisfactory change in the appearance of the patient.

Naturally, in the elaboration of a new technique some accidents are liable to occur, and here we have had no exception to this rule. However, these complications have been, with rare exceptions, mild attacks of cellulitis, due perhaps to some fault in the technique or to the haste which may have led the operator to inject more of the paraffin at one sitting than was advisable, thereby inducing over-distension of the tissues. In a very few cases this has proceeded so far as actual sloughing. It is possible that too high a temperature of the injected material may have been a factor in a few of these unfortunate cases. I believe, however, from my own experience, supplemented by a careful search of the literature upon this subject, that this simple procedure, when correctly done, is devoid of danger. Some of the deformities requiring the aid of this method may be congenital, some are traumatic, and many are due to the giving way of the solid frame-work of the nose due to the ravages of syphilis, as in the author's case, reported with this review.

The question of the permanency of the immediate results obtained is a very practical one, and experiments have been made by several investigators to decide this point. The clinical results, however, bear out the statement that the results are permanent for a number of years at least and without any noticeable change. Therefore, if it should ultimately develop that after a great many years the material was to a greater or less degree removed by absorption it will be well worth the patient's time and discomfort to submit to a repetition of so simple and painless a procedure. I desire to add that it is very probable that the results are entirely permanent.

As to what changes are brought about in the areas of the injected fluid to render its retention a permanent one there is yet a difference of opinion. Juckuff has experimented upon rabbits with mixtures of liquid and solid paraffin with melting points ranging from 32° C. to 36° C. His results lead him to assert that all non-watery fluids are not taken up by the lymphatics. As to the status of these remaining solid elements of the injected media, as regards the surrounding tissue, he believes the paraffin gives rise, by the irritation of its introduction and retention, to a growth of connective tissue, which extends gradually into the paraffin converting it into a mesh-work. Small areas of the paraffin are isolated, one from the other, and are finally emulsified, and become capable of absorption by the lymph vessels. Juckuff believes that the paraffin, by gravitation, reaches the deeper tissues. Moszkowicz in considering these results of Juckuff remarks that in the experiments a relatively large amount of paraffin was used when compared with the body weight of the animal in which powerful skin muscles existed; he is therefore not surprised that under such conditions there should be some wandering of the solid material from the original point of injection. Moszkowicz agrees in the main with Juckuff as to the means of encapsulation of the foreign mass.

Harmon Smith as a result of experiments on rabbits does not agree with the two former investigators, but thinks the incapsulation is simply mechanical and without tendency of the mass to gravitate into the deeper tissues, or to the formation of trabeculæ throughout the paraffin. One cannot help but believe that in many cases the conditions as described by Juckuff and Moszkowicz actually exist, for some inflammatory reaction usually or always follows the operation, although as a rule I believe it is slight in degree.

The cases, reported by Pfannenstiel and Halban of pulmonary embolism following paraffin injection, Gersuny believed to be due to the use of the paraffin at too high a melting-point. Before reporting the case whose photographs accompany this article I desire to speak of the preparation of the paraffin mixture to be used as the injection and also of the technique of the operation.

From Gersuny's first reports I presume his early injections were largely or entirely composed of melted vasalin. Since these reports various mixtures of vasalin and paraffin have been employed according as the higher or lower temperature of the injection was desired, the addition of more of the vasalin lowering the point at which the change from a solid to a liquid state of the mixture took place. My friend Dr. E. H. Parker calls my attention to some very important points in this connection that have not previously been brought to my attention through the various reports which I have found, and which I deem of essential importance. He believes it eminently desirable to have a melting-point as low as possible, since the lower this point is the less irritation follows the injection. Secondly, for the following very important reason: it seems generally appreciated that the oily constituents—which are carried into the admixture by the addition of vasalin—are sooner or later absorbed. It is evident that the less the amount of the vasalin used the more the injected material do we thus permanently retain. Since the ultimate result is possibly the absorption of the oily element, the solid paraffin alone remaining, we have, whatever the degree of the melting-point of the fluid when it is injected, a constant point for all paraffins of equal constituents which melting-point is, of course, far higher than any of the various melting-points of the various mixtures at the time of injection.

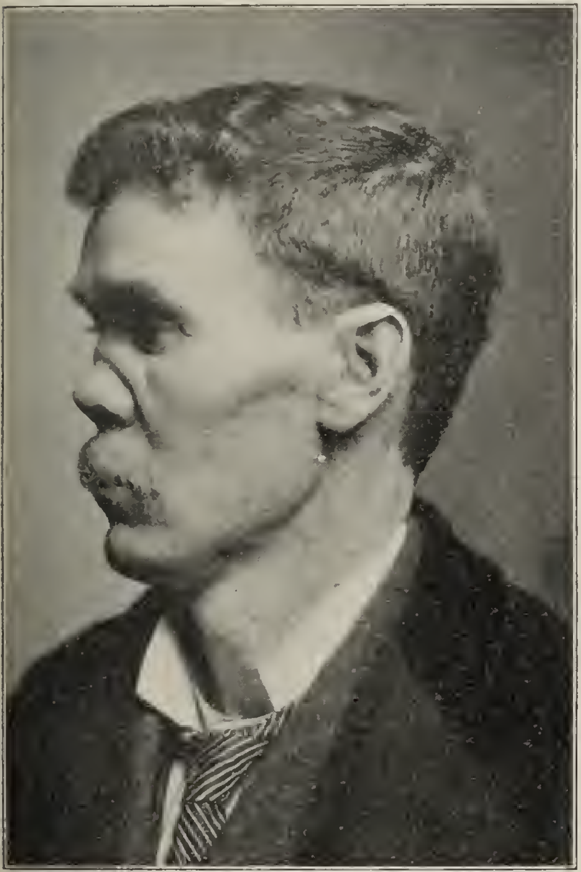

Fig. 1.

This appreciation of the possible disappearance of the oils (this, it must be remembered, is not entirely proven) with the lower melting-point with a retention of a solidified mass of paraffin of a higher melting-point, would effectually dispose of the fears entertained by some that high elevations of temperature in cases of acute disease would cause a melting of the paraffin.

I wish to make myself clearly understood as presenting these points, not as clearly demonstrated facts, but as very rational theories which have been sustained to some degree by investigation. Dr. Parker's idea in this matter appeals to me strongly, and for this and much valuable aid in connection with the case which I now present I am greatly his debtor.

G. M——, aged 28, white. The bridge of his nose began to fall in about the spring of 1895. In the fall preceding this he had a very sore throat with a marked change in the clearness of his voice. For three weeks he could not swallow solid food, and he declares that he "lived upon water." I saw him for the first time February 10th of this year. All of the glandular structures of the pharynx and fauces, as well as the entire uvula, soft palate, septum, and turbinal bodies, were gone. A small foramen, about the size of a dime, was the sole communication between the nares and the nasopharynx. The openings into the frontal sinuses and the lower surface of the cribriform plate were in evidence. The solid frame-work of the external nose was carried away by the disease. Hearing was greatly diminished; an otorrhea was present in the left ear. I treated him by the vigorous administration of mercury innunc-

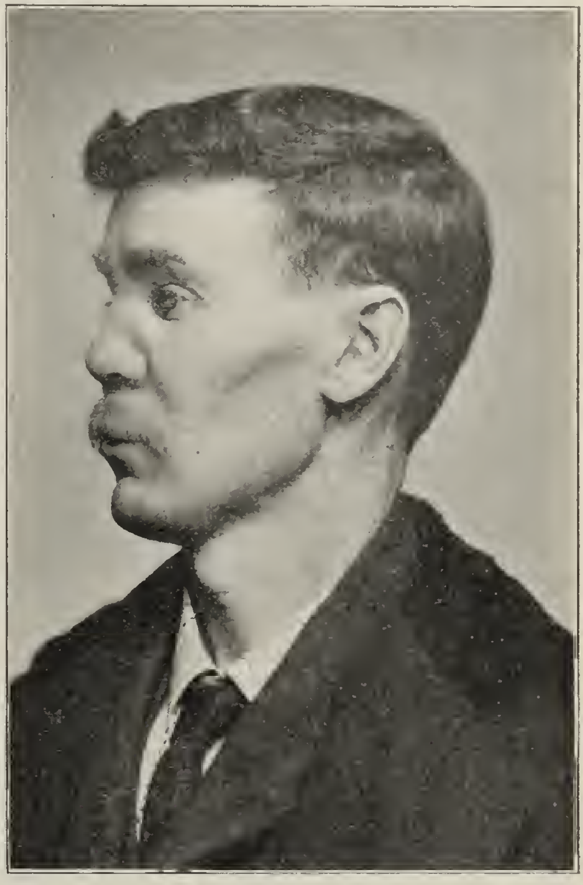

Fig. 2.

tions with iodides internally, and with local treatment directed to the offensive scabby accumulations in the nose. After a short time the process seemed to be much under control, and the local conditions improved. The patient desiring relief from the disfigurement due to the marked saddle bridge, on March the 20th, with the assistance of Dr. Parker, I injected one and a half to two grams of the paraffin mixture. The reaction was slight, and little or no pain followed the operation, although it is true that some pain accompanied it. As the patient insisted upon an early departure for home we repeated the injection about ten days later, using almost an equal amount of the solution as had been used in the first place, and with excellent immediate results.

In connection with this report I shall avail myself of the opportunity to speak of the preparation of the materials used for injections and of the technique involved in its introduction under the skin. At the present time ready-prepared paraffins are on the market, but I am not aware of the constancy of their melting-point, which I believe is well to have very slightly under 102° F. A hard—almost crystalline—lump paraffin is obtainable, but the soft commercial paraffin mixed with liquid vasalin in such proportion to make a mixture with a melting-point at a little under 102° F. is very satisfactory. This melting-point is determined by smearing the bulb of a clinical thermometer, and immersing it in warm water and heating until the paraffin loosens from the bulb of the thermometer, and floats to the surface. Vasalin should be added to the paraffin until this takes place with the thermometer showing a temperature of 102°. The paraffin should be sterilized by boiling in a hot-water bath. The boiling point of paraffin being much higher than water, this is quite sufficient to eliminate all bacteria.

The technique of this operation is essentially simple, nevertheless it must not be faulty. The area of the skin to be operated upon should be thoroughly cleansed with tincture of green soap, followed by alcohol and then by 1-5000 bichloride solution. A pad wet in the solution should be allowed to remain over the nose for some time. The antitoxine syringe, with the largest obtainable needle, meets all the requirements, and should be sterilized.

Contrary to opinions expressed by many I prefer a metallic syringe to one with a glass barrel, since it is much stronger and gives out the increments of heat more slowly. Such a syringe fitted with a screw-rod to the piston, renders the expulsion of the material much more satisfactory. A cup containing the prepared mixture at the desired temperature is kept in a warm-water bath, and the barrel of the syringe may be wrapped in hot clothes as the operator desires. Cocain, from 4 to 10 per cent, should be injected into the parts where the needle is to enter, and the same wound be utilized, if it is possible to do so, for the needle of the paraffin syringe. When everything is ready the mixture is drawn up into the syringe, and it is not ready for introduction into the nose until it streams forth from the syringe needle as a semisolid thread. When this point is reached the operator must hasten to enter the needle, and inject from 1 to 1½ grams (15 to 22 minims) into the desired region. Should the liquid become too solid for expulsion from the needle, the needle may be dipped into hot water.

The region to be operated upon is usually at the junction of the lower and middle third of the bridge of the nose. I find it of great service, although it adds somewhat to the painfulness of the procedure, to insert a heavy pair of forceps, which has been freely wrapped with cotton into one side of the nares, and with this produce pressure upwards, while the operator moulds the rapidly hardening fluid. I may here say that it is advisable to slightly overcorrect the deformity, since the possible absorption of the oily elements may render the ultimate result slightly less than the immediate result. It is furthermore advisable, in order to avoid infiltration of the soft tissues about the inner canthi of the eyes, that the assistant produce considerable pressure about each side of the root of the nose and below the eye. In some recent reports the writer suggests the use of ice to hasten the cooling of the paraffin. This is a suggestion that would seem entirely unnecessary when one is brought to realize how very rapidly he must work to attain to the plastic ends desired before the material hardens. The wound or wounds made by the needles are to be washed in bichloride, and a sterile piece of cotton placed over and covered with flexible collodion.

In my case the reaction was so slight as to merit no special notice, and brought forth no complaint from the patient. The results in this case are shown by the two photographs and present a restoration of the normal lines of the nose that has been satisfactory to both the patient and myself.

Many different schemes to keep the paraffin from cooling in the syringe have been proposed, but I am persuaded that there is less trouble to be found in this regard if the field of operation is prepared and the operator is alert to inject the material when its exit from the needle shows it to be at the proper consistency than in the many intricate mechanisms devised by ingenious operators.

Taking all the factors into consideration it seems that we have through the introduction of this agent a valuable adjunct to the surgical art, for art it truly is, when the disfiguring lineaments of disease are obliterated by the moulding and *constructive* hand of the surgeon.

OBSTRUCTION OF THE BOWELS RELIEVED BY INGUINAL COLOSTOMY*

By James E. Moore, M. D.

Clinical Professor of Surgery, University of Minnesota

MINNEAPOLIS

This is a private patient of mine who has kindly consented to allow me to bring him before you. His case is just such an one as you are all liable to meet with in practice, and your remembrance of it and what was done for it may sometime help you out of a serious dilemma.

Five days ago I was called by Professor Erdmann to see this man, who had been suffering from a partial obstruction of the bowels for a week. He had had no fecal matter pass for seven days, but had been able to pass some gas. He had eaten nothing during this time, but was vomiting occasionally. The temperature was practically normal, but the pulse grew gradually more rapid, so that at my first visit I found it about 120. His abdomen was greatly distended, and he was in great pain. Dr. Erdmann had vainly resorted to every expedient known to medicine to relieve the obstruction, being careful not to overdo the matter. He continued this treatment longer than he would in an ordinary case of bowel obstruction, because the obstruction was evidently incomplete, and because the patient had suffered from several attacks of this kind and had always been relieved by medicine and injections. The patient is now fifty-six years old. He has usually enjoyed good health up to a few months ago, when he began to lose flesh, so that he now weighs forty pounds less than he did. During this time he has been comparatively free from pain except when he had an attack of obstruction, which occurred about once every two weeks. You can see that the whites of his eyes have a slight yellow tinge, and that he has a very peculiar complexion. This appearance indicates that he is in what we term a cachectic condition. The term *cachexia* is one used to cover up our ignorance, but it means that the patient is suffering from some very grave disease. It is most commonly applied to patients suffering from malignant diseases. Doctor Erdmann had examined the rectum carefully, and assured me that there was nothing wrong there. The fact that there had been no fecal vomiting and that vomiting had not been a prominent symptom, led us to believe that the obstruction could not be high up. There was no localized tenderness, but even with his greatly distended abdomen we could make out a solid mass in the left iliac region in the vicinity of the sigmoid flexure. The patient said that he had felt this lump, but that he had thought that it was impacted fecal matter.

It was evident that this man was suffering from a growth of some kind which was causing the obstruction. His face, the rapid pulse, and his generally weakened condition convinced us that he could not survive an operation for the removal of this growth. Every medical resource had been exhausted, so we advised a middle course, which the patient promptly accepted. He was brought to the hospital, and operated upon without delay.

I made an incision parallel with and a little above Poupart's ligament. Through this incision I brought a loop of the sigmoid portion of the colon. A glass tube wrapped with iodoform gauze was passed through the mesentery, and the loop of the bowel allowed to hang over this with the ends of the tube resting on the abdominal wall on either side of the wound. The bowel was then stiched close to the peritoneum with catgut, so that the bowel contents could not enter the abdominal cavity after the bowel was opened. When the patient's condition will permit the bowel is not opened for three or four days, so that the peritoneal cavity is sure to shut off, but in this case it was necessary to open the bowel at once to relieve the obstructive symptoms, therefore, after fastening the bowel to the integument with silk, I opened it. A large amount of fecal matter and gas escaped, and the bowel was repeatedly washed out with water. The patient bore the anesthetic very well; in fact he had a better pulse at the end of the operation than at the beginning. His distension and pain were relieved at once, and the following morning he took nourishment with a relish. He has been quite comfortable with normal pulse and temperature ever since. After two or three days the bowel will be cut clear through and the glass tube removed.

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*Part of a clinical lecture delivered at the Northwestern Hospital of Minneapolis before the students of the University of Minnesota.

* * * * * *

Now that the patient has been taken away, I can say to you that when we examined the growth through the wound we found, as we suspected, that the growth is malignant, that it involves the whole circumference of the bowel, and that the neighboring lymphatics are so extensively involved that we can not conscientiously advise a second operation. The patient understood this possibility before the operation, but he is seemingly so happy now that it would be unkind to dwell upon the matter unnecessarily in his hearing. He can go home in another week, and live a few months in comparative comfort. He will finally die from exhaustion, which is painless as compared with death from obtruction. If there were any chance of removing all of the disease the proper course to pursue would be to remove a section of the bowel with the disease and make an end to end anastomosis, but it would be very bad surgery to expose this patient to the danger of this grave operation when there is no hope of a radical cure.

A few years ago inguinal colostomy, the operation we have performed here in an emergency, was the operation of choice in cancer of the rectum and sigmoid, but now we endeavor to remove the growth when it is not too extensive and the patient's condition will permit. By this means a small percentage can be cured, and a larger percentage will live longer than they would from a palliative operation. I am a strong advocate of the palliative operation, however, in cases too far gone for the radical operation, for it does relieve suffering and prolong life.

DIPHTHERIA ANTITOXIN IN LONDON

The British Medical Journal of March 14, 1903, has this to say editorially upon diphtheria antitoxin: "The value of antitoxin treatment in diphtheria is clearly demonstrated in the returns of the Metropolitan Asylums Board. In 1894, 3,042 patients of all ages were treated in the board's hospitals without antitoxin; 902 died, yielding a mortality of 29.6 per cent. In 1895 the antitoxin serum treatment was inaugurated; 3,529 cases of diphtheria were treated, and 729 died, yielding a mortality of 22.5 per cent. Hence, in the first year there was a fall in mortality of 7.1 per cent. From the Annual Report of the Metropolitan Asylums Board for 1901, recently issued, it appears that in 1901, 6,499 patients suffering from diphtheria were treated with antitoxin in the board's hospitals; 817 died, yielding a mortality of 12.5 per cent. There has, therefore, been a fall in mortality percentage from 29.6 in 1894, without antitoxin, to 12.5 in 1901, with antitoxin. In other respects the treatment has been substantially the same. The laryngeal cases treated in 1901 with antitoxin numbered 753, and there were 159 deaths, which gives a mortality percentage of 21.1. It has long been known that early administration of antitoxin is important if its real advantages are to be gained. But it would be difficult to furnish more concise or convincing evidence of this well known fact than the tables printed in the Asylums Board Report from Dr. MacCombie's results at the Brook Hospital. During the year 723 cases of diphtheria were treated with antitoxin, and 78 died, yielding a mortality per cent of 10.79. The antitoxin treatment was applied in each of these cases, but in some it was possible to begin on the first day of the disease, in others on the second, and so on. The paramount importance of administration at the earliest possible moment is seen in the result. The mortality percentage of the first-day cases (38) was 0.0; of the second-day (170 cases) 4.1; of the third day (192 cases) 11.9; of the fourth day (137 cases) 12.4; and of the fifth and subsequent days (186 cases) 16.6. For five consecutive years there has not been a death at this hospital among the cases that came under treatment on the first day of the disease, and of those coming under treatment on the second day of the disease the mortality has not exceeded 5.4 per cent. These figures afford striking evidence of the value of antitoxin, and particularly of its early administration."

NORTHWESTERN LANCET

A SEMIMONTHLY MEDICAL JOURNAL

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JULY 15, 1903

CITY HOSPITAL POLITICS

The inevitable change in the administration of the affairs of the Minneapolis City Hospital takes place this month.

The mayor, who has the appointment of two members of the Board of Corrections and Charities, has promised to abide by their choice, and they have chosen Dr. George E. Ricker, a graduate of Hahnemann Medical College, Philadelphia, 1878, who is the mayor's family physician.

Doctor Ricker did good service in the campaign of last year, running on the Democratic ticket for the legislature. Unfortunately, the doctor did not succeed in his efforts, and his friends feel that he should be rewarded in some substantial manner.

Dr. Ricker has had years of experience in general practice, and is well known socially and professionally. He is a royal good fellow, and has a host of friends. He is also a member of the faculty in the Homeopathic College of Medicine and Surgery in the University of Minnesota, and is recognized as a skillful diagnostician. His disciplinary faculties will be thoroughly tested in his new office. His political training will be of great service in hs relations with the board. To carry out his demands for a new wing, more money for maintenance, and running expenses will tax his powers to the limit, and if he succeeds, he will have achieved a work to be proud of. The completion of the City Hospital is urgent; more room is needed for the acutely sick, and a new detention hospital or a department in the already constructed building is a necessity which cannot be longer ignored.

The LANCET wishes to commend the work of the retiring city physician, Dr. Henry Nelson. When he entered upon his duties, two years ago, the internal administration of the hospital was in a chaotic state. Dr. Nelson systematized the work, reduced the expenses of maintenance, collected a surplus from private patients, discharged worthless employees, and established a system by which the incoming physician will profit. The heads of departments, as well as the internes, were carefully selected for competency and thoroughness. Dr. Nelson retires with honor and a clean record, respected by the profession which he so ably represented. During the last few weeks of Dr. Nelson's service he was hampered by criticism in the daily press, and by a lack of funds to carry on an ambulance service. For lack of room and service he has been obliged to refuse a number of violent and maniacal cases. In spite of all the criticism and the helplessness of the city physician, the board are unable to provide funds for the care for these emergency cases. The time is coming when provision must be made for detention patients. The general public should show more interest and the press less carping if these changes are to be brought about.

MERCURIAL INJECTION IN SYPHILIS

The administration of mercury in the treatment of syphilis has undergone many modifications in the last few years. The older physicians still cling to the proto-iodide pill; others use calomel or bichloride by the mouth; a large number are wedded to inunctions, and a few to the use of mercury by hypodermic methods.

In Germany and in many parts of this country a solution of the succinimide has given much satisfaction. The injection is somewhat painful, lasting from three to six hours. The effects are prompt, however, and a few injections repeated twice or three times a week will demonstrate their good offices in a remarkably short time. The solution in common use is a one or two per cent solution, the dose of which is about twenty minims.

Dr. F. J. Lambkin (British Medical Journal, May 30) recommends as a less painful and more efficacious preparation, two drachms of mercury, two drachms of lanolin, and four drachms of a 2 per cent carbolized oil. From five to ten minims of this mixture should be given once or twice a week as a deep intramuscular injection.

Heidingsfield suggests for routine treatment a modification of Lang's formula, an even mixture of equal parts of bidistilled (metalic) mercury and lanolin, gently heated to about 100° F. This mixture is less irritating and less apt to produce emboli.

Physicians who have used the hypodermatic methods prefer them to mouth or skin administrations. If syphilis is not the cause in an obscure or organic case the injection method is less inclined to produce unpleasant systemic disturbances. The ptyalism is prompt in appearing, but is not so active and is more readily controlled. In the cases in which syphilis is evident the promptness with which it subsides is extremely gratifying. This method in old cases of syphilis is more effective than the slower and uncertain forms of mercury given by the mouth. Another advantage is the infrequency of the doses as one or two injections each week is usually quite enough.

The disagreeable and untidy inunction is often inapplicable, and when it is necessary to avoid calling the attention of the patient to a possible syphilis the injection is superior in every way to the inunction.

MEDICAL JOURNAL CONSOLIDATION

The Philadelphia Medical Journal and the New York Medical Journal have been consolidated, and the event is worthy of special mention because of the very high standing and wide circulation of the two journals. They have been alike in many respects, but particularly in their ethical character. Each has had a constituency among the foremost medical men in all parts of the country, and we believe each has been financially successful; and therefore their consolidation means a stronger and better paper than either could be by itself.

Such consolidations are wise, and mean much for medicine. If the new journal can hold, as no doubt it can, most of the contributors of the two journals, it will have an overabundance of matter and only the best will find place in its columns. Such a journal will be doubly welcome to the medical profession, and should have no small influence in the medical field.

CORRESPONDENCE

MOSER'S SCARLET-FEVER SERUM

Vienna, Austria, June 20, 1903.

To the Editor of the Northwestern Lancet:

Within the last year Dr. Paul Moser, working in Prof. Escherick's children's clinic and Prof. Paltauf's Serotherapeutic Institute, has published important investigations upon the serum treatment of scarlet fever. These investigations have been published in a monograph entitled "Ueber die Behandlung des Scharlachs mit einem Scharlach Streptokokken Serum," and will be of interest to medical men of the northwest.

The writer first reviews the subject of streptococci in their relation to the etiology of scarlet fever and takes sides with those who maintain a casual relationship between the two. In 99 fatal cases of scarlet fever he has cultivated streptococci from the heart's blood 63 times. Twice during life he has cultivated streptococci from the cerebrospinal fluid of scarlet-fever patients. One of these cases recovered, the other died, and after death no streptococci could be cultivated from the heart's blood.

Moser used dogs in his work, infecting them with streptococci cultivated from the heart's blood of patients dying of scarlet fever.

Two dogs, "Bertram" and "Egmont," were used in the experiments. They were injected weekly with increasing amounts (2-200 c. m.) of mixed streptococci cultures 3-6 days old.

The injections were made at first intravenously; later, subcutaneously. The streptococci were cultivated from scarlet-fever blood.

After the dogs became immunized they were bled, and their blood serum injected subcutaneously into scarlet-fever patients in amounts ranging from 30-130 c. m. Eighty-four patients in all have been treated with the serum. Of 34 injected within the first three days of the disease only one died. Of 50 injected after the third day of the disease 15 died. The author therefore concluded that the serum must be given early in the disease to be of greatest value.

Clinically, in the cases of scarlet fever treated by this serum it was observed:

1. That the exanthem developed less completely and disappeared much earlier than in cases otherwise treated.

2. That disturbances of the nervous system, delirium, somnolence, prostration, etc., occurred less frequently and were of shorter duration than in the uninjected cases.

3. That the temperature curve very often showed a critical fall to normal within 24 hours following the injection.

4 That complicating bronchitis, gastro-intestinal disturbances, glandular swellings, and nasal and pharyngeal complications developed less frequently and continued for a shorter time than in the uninjected cases.

5. That nephritis occurred less frequently than in the cases not treated with the serum.

6. That the duration of the disease was much shorter than in cases treated by other methods.

The author believes that his serum has also an immunizing value. He injects 10 c. m. for this purpose. Of 14 children injected to produce immunization 4 took the disease. An epidemic of scarlet fever breaking out in the hospital 25 children were given immunizing doses. None contracted the disease. The author then proves that the blood serum of normal dogs has no effect upon scarlet fever, and also that other streptococcus serum (Marmorek's) has no influence upon the course of the disease.

Coming as this work does from the clinic of Prof. Escherich it merits the consideration of all medical men, and probably represents a distinct advance in the treatment of this severe infection of childhood.

GEO. DOUGLAS HEAD.

REPORTS OF SOCIETIES

HENNEPIN COUNTY MEDICAL SOCIETY

Minneapolis, Minn., June 1, 1903.

F. A. KNIGHTS, M. D., SECRETARY.

A stated meeting of the Hennepin County Medical Society was held in the society's rooms in the Andrus Building, Dr. J. W. Bell, president, in the chair, and about 40 members present.

The minutes of the previous meeting were approved as read.

The Board of Censors reported favorably on the applications of the following named gentlemen:

Dr. L. O. Dart,
Dr. Jas. Blake,
Dr. Stephen H. Baxter,
Dr. C. A. Hutchins,
Dr. John Jay Rogers,
Dr. W. H. Aurand.

Ballots being duly taken they were all declared regularly elected to membership in the society.

Application for membership was made by Dr. Chas. N. Spratt, Syndicate Arcade, and Dr. H. W. Jones, 513 Pillsbury Bldg, and these applications were read and referred to the Board of Censors. Dr. R. J. Hill introduced for consideration the Red Cross Medical Ass'n's scheme to insure against sickness, agreeing to pay the bill of the family physician. This company asking indorsement by the society. It was further stated that the druggists of the city were favorably disposed toward the scheme. It was moved by Dr. McCollum and seconded by Dr. Stuart that the matter be laid on the table. This motion was lost by a vote of 8 to 9. It was moved by Dr. Jones that the matter be referred to a committee appointed by the chair who should investigate and report at a subsequent meeting. This motion prevailed. Committee, Dr. Hill, Dr. McCollum, and Dr. Litzenberg.

Dr. Schwyzer presented a specimen of cystic tumor of the spermatic cord, the remains of a former hydrocele of the cord, with sketches showing its probable mode of formation.

Dr. B. M. Behrens reported case of amblyopia cured by nasal cauterizations.

Dr. Rees presented a case of pernicious anemia with microscopical preparations of the blood.

Dr. Hunter exhibited the stomach and liver of a patient dying from recurrent carcinoma, the patient having been brought before the society by him three years ago after operation for gastric cancer.

Dr. Sweetser then read a paper, "Perforated Typhoid Ulcer; Operation and Recovery," which was discussed by Dr. J. E. Moore, Dr. Nippert, Dr. Hill, Dr. Spratt and Dr. Hunter, Dr. Sweetser closing the discussion.

Dr. Thos. S. Roberts read a paper, "The Requirements of a Good City Milk Supply," with lantern slides illustrating many interesting points of the paper. The society extended a vote of thanks to Dr. Roberts for this paper.

PHYSICIANS LICENSED AT THE JUNE EXAMINATION TO PRACTICE IN MINNESOTA

We publish this list in this form at the request of the State Board of Medical Examiners, in order that the names may be pasted in the Official Register, copies of which are sent free by the Board to anyone who applies for the same and remits five cents to pay the postage.

Anderson, W. S. (R) ; Uni. of Minnesota, 1903 ; June, 1903............Mabel
Axilrod, D. L. (R) ; Uni. of Minnesota, 1903 ; June, 1903.. .. Cumberland, Wis.

Baillie, W. F. (R) ; Uni. of Minnesota, 1903 ; June, 1903..........Barnesville
Beer, E. C. (R) ; Trinity Uni., 1903 ; June, 1903............London, Ontario
Benn, F. G. (R) ; Hamline, 1903 ; June, 1903....................Minneapolis
Bevans, T. F. (R) ; Uni. of Minnesota, 1903 ; June, 1903............St. Paul
Braasch, W. F. (R) ; Uni. of Minnesota, 1903 ; June, 1903..........Minneapolis
Butler, John Jr. (R) ; Uni. of Minnesota, 1903 ; June 1093........Minneapolis

Caldwell, D. K. (R) ; Hamline, 1903 ; June, 1903................Minneapolis
Call, A. M. (R) ; Uni. of Minnesota, 1903 ; June, 1903........Rugby, N. Dak.
Campbell, E. P. (R) ; Uni. of Minnesota, 1903 ; June, 1903..........St. Paul
Catlin, John J. (R) ; Uni. of Minnesota, 1903 ; June, 1903............Delano
Chapman, T. L. (R) ; Detroit Col. of Med., 1902 ; June, 1903....Detroit, Mich.
Clark, Robert (R) ; Uni. of Minnesota, 1903 ; June, 1903............Elysian
Coon, W. F. (R) ; Uni. of Minnesota, 1903 ; June, 1903..........Minneapolis
Coulter, Herbert (R) ; Uni. of Minnesota, 1903, June, 1903........Minneapolis
Cowan, D. W. (R) ; Uni. of Manitoba, 1887 ; June, 1903 ... Sandstone
Cramond, J. E. (R) ; Hamline, 1903 June, 1903............Rugby, N. Dak.
Cummings, W. C. (R) ; Uni. of Iowa, 1903 ; June, 1903.. ....Iowa City, Ia.

Davis, F. W. (R) ; Uni. of Minnesota, 1903 ; June, 1903..............Taopi
Dawson, C. A. (H) ; Uni. of Minnesota, 1903 ; June, 1903........Minneapolis
Deslauriers, A. A. (R) ; Uni. of Minnesota, 1903 ; June, 1903........St. Paul
Doran, G. M. (R) ; Hamline, 1903 ; June, 1903....................St. Paul

Ellis, B. K. (R) ; Uni. of Minnesota, 1903 ; June, 1903..............St. Paul

Fitzgerald, D. F. (R) ; Uni. of Minnesota, 1903 ; June, 1903......Minneapolis
Fowler, P. H. (R) ; Uni. of Minnesota, 1903 ; June, 1903..........Rochester
French, E. A. (R) ; Uni. of Minnesota, 1903 ; June, 1903..........Ortonville
Friberg, C. P. (R) ; Hamline, 1903 ; June, 1903................Minneapolis
Fullerton, Ellen C. (R) ; Uni. of Minnesota, 1903 ; June, 1903......Minneapolis

Gosslee, G. L. (R) ; Hamline, 1903 ; June, 1903..................Minneapolis
Green, E. K. (R) ; Uni. of Minnesota, 1903 ; June, 1903..........Minneapolis

Hagaman, G. K. (R) ; Uni. of Minnesota, 1903 ; June, 1903..........St. Paul
Hagen, O. E. (R) ; Uni. of Illinois, 1903 ; June, 1903............Butterfield
Hanson, G. C. (R) ; Northwestern, Chicago, 1903 ; June, 1903..........Climax
Harden, Kate C. (R) ; Uni. of Minnesota, 1903 ; June, 1903........Minneapolis
Hart, A. B. (R) ; Uni. of Minnesota, 1903 ; June, 1903..............Canton
Heimark, J. H. (R) ; Hamline, 1903 ; June, 1903..............Granite Falls
Higgins, J. H. (R) ; Uni. of Minnesota, 1903 ; June, 1903..........Minneapolis
Hovde, A. G. (R) ; Uni. of Minnesota, 1903 ; June, 1903..........Minneapolis
Hubbard, F. G. (R) ; Uni. of Minnesota, 1903 ; June, 1903........Lake Elmo
Humiston, Ray (R) ; Uni. of Minnesota, 1903 ; June, 1903........Worthington

Ingram, Lawrence (R) ; P. & S., Keokuk, 1903 ; June, 1903......Zumbro Falls
Irvine, H. G. (R) ; Uni. of Minnesota, 1903 ; June, 1903 ....Minneapolis

Jelstrup, M. F. C. B. (R) ; Northwestern, Chicago, 1903 ; June, 1903..Albert Lea
Jensen, J. C. (R) ; Uni. of Minnesota, 1903 ; June, 1903............Hendricks
Johnson, Anders E. (R) ; Uni. of Minnesota, 1903 ; June, 1903....Roland, Iowa
Johnson, Aug. E. (R) ; Hamline, 1903 ; June, 1903..............Minneapolis

Kaess, A. J. (R) ; Uni. of Minnesota, 1903 ; June, 1903............New Ulm
Klove, L. N. (R) ; Uni. of Minnesota, 1903 ; June, 1903........Minneapolis

Lenfest, J. W. (R) ; Uni. of Minnesota, 1903 ; June, 1903............Anoka
Lima, Ludwig (R) ; Hamline, 1903 ; June, 1903..................St. Paul
Limburg, A. M. (R) ; Uni. of Minnesota, 1903 ; June, 1903..Bowbells, N. Dak.

Lord, B. E. (R); Hamline, 1903; June, 1903..................Minneapolis
Lyman, F. V. (R); Uni. of Minnesota, 1903; June, 1903............Caledonia

McDonell, W. N. (R); Uni. of Minnesota, 1903; June, 1903......Minneapolis
Magnusson, H. V. (R); Uni. of Minnesota, 1903, June, 1903..........Harris
Marcum, E. H. (H); Hahnemann, Chicago, 1903; June, 1903......Crookston
Mee, P. H. (R); Uni. of Minnesota, 1903; June, 1903..............Gaylord
Melby, Benedik (R); Uni. of Minnesota, 1903; June, 1903....Merrillan, Wis.
Mertens, J. J. (R); Hamline, 1903; June, 1903..................Minneapolis
Mitchell, F. J. (H); Hahnemann, Chicago, 1903; June, 1903........Euclid
Mitchell, R. S. (R); Hamline, 1903; June, 1903................Minneapolis
Mitchell, W. I. (H); Hahnemann, Phil., 1903; June, 1903..........St. Paul
Moynihan, A. F. (R); Hamline, 1903; June, 1903..................St. Paul
Munns, J. F. (R); Uni. of Minnesota, 1903; June, 1903..........Minneapolis

Nelson, E. H. (R); Hamline, 1903; June, 1903..................Minneapolis
Newgord, J. G. Jr. (R); Uni. of Minnesota, 1903; June, 1903....Minneapolis
Newkirk, H. D. (R); Uni. of Minnesota, 1903; June, 1903......Minneapolis
Nicholson, Joseph (R); Uni. of Minnesota, 1903; June, 1903........Brainerd
Nickerson, B. S. (R); Uni. of Minnesota, 1903; June, 1903..........St. Paul
Noth, H. W. (R); Uni. of Minnesota, 1903; June, 1903..........Minneapolis

Ohnstad, Jens (R); Hamline, 1903; June, 1903................Minneapolis
Old, H. W. (R); Uni. of Minnesota, 1903; June, 1903..............St. Paul

Page, G. E. (H); Uni. of Minnesota, 1903; June, 1903..............Anoka
Pettit, C. W. (R); Uni. of Minnesota, 1903; June, 1903..............Byron
Phelan, R. J. (R); Uni. of Minnesota, 1903; June, 1903......Lake Mills, Iowa
Plehn, J. F. (R); Hamline, 1903; June, 1903..................Minneapolis
Poirier, J. A. (R); Hamline, 1903; June, 1903..................Gladstone

Randal, A. M. (R); Hamline, 1903; June, 1903..................Eagle Bend
Rice, G. D. (R); Uni. of Minnesota, 1903; June, 1903..............Adrian
Riley, P. E. (H); Uni. of Minnesota, 1903; June, 1903............St. Paul
Robitshek, E. C. (R); Uni. of Minnesota, 1903; June, 1903......Minneapolis
Rowe, O. W. (R); Uni. of Minnesota, 1903; June, 1903..........Minneapolis
Russell, C. W. (R); Uni. of Minnesota, 1903; June, 1903............St. Paul

Schmidt, Gottfried (H); Uni. of Minnesota, 1903; June, 1903......New Ulm
Schmidt, W. R. (R); Uni. of Minnesota, 1903; June, 1903..........Hibbing
Schocht, F. E. (R); Uni. of Minnesota, 1903; June, 1903..........Elizabeth
Schuldt, F. C. (R); Uni. of Minnesota, 1903; June, 1903..........St. Paul
Schultz, F. W. (R); Uni. of Maryland, 1902; June, 1903............Austin
Shallenberger, W. E. (R); Barnes, 1903; June, 1903............Chicago, Ill.
Shelden, W. D. (R); Rush, 1895; June, 1903...............Reedsburg, Wis.
Shellman, J. L. (R); Uni. of Minnesota, 1903; June, 1903............Hibbing
Siberts, P. R. (R); Northwestern, Chicago, 1903; June, 1903..........Eveleth
Simpson, F. W. (R); Cooper, Med. Col., 1894; June, 1903..........St. Paul
Sterner, O. W. (R); Uni. of Minnesota, 1903; June, 1903..........Cambridge
Stoley, J. C. (R); Uni. of Minnesota, 1903; June, 1903..............St. Paul
Stone, C. B. (R); Trinity Uni., 1903; June, 1903..............London, Ont.
Stimpson, E. W. (R); Uni. of Minnesota, 1903; June, 1903....Newport, Ore.
Strech, E. D. (R); Hamline, 1902; June, 1903..................Minneapolis
Swenson, Charles (R); Hamline, 1903; June, 1903..................Braham

Tilderquist, D. E. (R); Uni. of Minnesota, 1903; June, 1903......Minneapolis
Todd, G. D. (R); Uni. of Minnesota, 1903; June, 1903..........Minneapolis
Torland, Asbjorn (R); Hamline, 1903; June, 1903..................Audobon

Vogel, J. H. (R); Rush, 1903; June, 1903......................New Ulm

Watson, F. G. (R); Hamline, 1903; June, 1903............Le Sueur Center
Werner, N. L. (R); P. & S., Ill., 1903; June, 1903........Diamond Bluff, Wis.
Wethall, A. G. (R); Uni. of Minnesota, 1903; June, 1903........Minneapolis
Whipple, C. D. (R); Uni. of Minnesota, 1903; June, 1903........Minneapolis
Whittemore, A. A. (R); Hamline, 1903; June, 1903..........Rugby, N. Dak.
Whittemore, J. G. (H); Uni. of Minnesota, 1903; June, 1903........Glenwood
Wiger, N. N. (R); Uni. of Minnesota, 1903; June, 1903......River Falls, Wis.
Wilkinson, Stella L. (R); Uni. of Minnesota, 1903; June, 1903......Newport

Young, V. A. (R); Hamline, 1903; June, 1903..................Minneapolis

NEWS ITEMS

Dr. Earl Marcum has begun practice at Bemidji.

The St. Olaf Society of Northfield will build a hospital.

D. Louis Goeschel, of Mandan, N. D., died last month.

Dr. A. O. Heiberg, of Rushford, has moved to Northfield.

Dr. Lucius Nutting, of Bozeman, Mont., died on June 21.

Dr. E. R. Jellison has given up practice at Clara City.

Dr. A. J. Swezy, of Decorah, Iowa, has located at Canton.

Dr. G. Bjornstad has moved from Cannon Falls to Hendricks.

Dr. H. W. Gammel, of Madison, Minn., is enlarging his hospital.

Dr. S. Dulude, of Montreal, Canada, has gone into practice at Argyle.

Dr. F. G. Benn, a recent graduate of Hamline, has located at Kulm, N. D.

Dr. J. H. Hutchins, of Flandreau, N. D., has removed to Hampton, Iowa, his former home.

Dr. B. H. Haynes, of St. James, was married last month to Miss Mabel A. Jewell, of Estherville.

Dr. Andrew J. Kaess, who has served two years in Asbury Hospital, has located at Ortonville.

Dr. O. A. Burton, of Albert Lea, has returned from a four-months' trip to Europe. He spent most of his time in Vienna.

The Sisters of St. Benedict, of St. Joseph, will build a 10-room hospital for the care of the students in the academy of St. Joseph.

Dr. P. H. Mee, a recent graduate of the State University, has located at Gaylord, and entered into partnership with Dr. D. N. Jones of that place.

Dr. Herbert W. Rogers, who has just graduated at the Northwestern University of Chicago, has gone into practice with his father at Montevideo.

Dr. Sara-Linton Phelps, of Rochester, died on June 21. She was a sister of Dr. W. B. Linton, of Minneapolis, and of Dr. Laura Linton, of Rochester.

Dr. Charles F. Watkins, of the Northern Pacific Sanitarium at Brainerd has been appointed assistant surgeon of the N. P. Hospital at Missoula, Montana.

Dr. F. J. Mitchell, of Richland Center, Wis., has taken the practice of Dr. J. S. Chapin, of Euclid, who will go into business. Dr. Mitchell is a graduate of Rush.

Dr. F. P. Strathern, of St. Peter, and Miss Ida Schleuder, of the same place, were married last month. Dr. Strathern graduated at the State University with the Class of '99.

At the June meeting of the Nicollet County Medical Society, the physicians of Nicollet and Le Sueur counties decided to raise their fees, to make them correspond with the fees generally charged in the state.

Dr. C. W. Fogarty, of Brown's Valley, a '98 Hamline man, has won the gold medal in surgery for the best work done in the post-graduate course at Jefferson Medical College of Philadelphia. The class numbered 205.

A traveling doctor, calling himself Joe M. Wilson, who, with several assistants, was operating in Kandiyohi county last month, was arrested and fined $50. As he had made several hundreds in a few days, one wonders what good such a fine does.

The Crow River Valley Medical Society met in Willmar last month, and elected the following officers for the ensuing year: President, Dr. F. M. Archibald, Atwater; vice-president, Dr. E. S. Frost, Willmar; secretary, Dr. J. W. Robertson, Litchfield; treasurer, Dr. Christian Johnson, Willmar.

The Lidgerwood (N. D.) Hospital was opened last month. The building and furniture cost about $25,000. It is in charge of Drs. Shanley and Shields, with Miss Bushnell and Miss Eason, formerly nurses in the Asbury hospital of Minneapolis, as nurses. Dr. Shields has just returned from a course of study in Europe, and Dr. Shanley expects to go abroad soon.

The physicians of Wright County organized the Wright County Medical Society on July 1, meeting at Buffalo. The following were elected officers: President, Dr. E. Y. Chilton, of Howard Lake; vice-president, Dr. R. F. Lynch, of Monticello; secretary, Dr. E. A. Shannon, of Buffalo; treasurer, Dr. G. M. F. Rogers, of Buffalo. The society will meet quarterly, on the first Monday in October, January, April and July. The next meeting will be held at Buffalo.

FOR SALE.

I have an extra ophthalmometer, practically new, which I will sell for 50 per cent of its cost price.

Dr. C. H. Kohler, 612 Pillsbury Bldg., Minneapolis.

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BULLET WOUNDS IN MODERN WARFARE*

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MINNEAPOLIS

Bullet wounds in modern warfare, their treatment, pathology, and mortality, have undergone a radical change since the days of pre-antiseptic surgery. There are many factors primarily responsible for this, the principal one being the extraordinary development, from a mechanical standpoint, of the weapons and projectiles used to inflict the same.

Wounds inflicted by the bullet from the present high-power, small-caliber, long-range rifles, are essentially different from those resulting from the impact of the old-fashioned large-caliber, soft-lead, slow-moving slug as universally used by all the nations as late as 1885. To properly appreciate why this marked difference in the modern battle wounds obtains we must have a comprehensive idea of the difference between the old and the new projectiles which inflict them.

Until the Civil War in Chili, in 1891, when the new high-power rifle was first used, the battles of the world since 1851 had been fought with rifles using as projectiles cylindro-conical, soft-lead bullets of calibers 45 to 50 and varying in weight from 400 to 500 grains, projected by charges of black powder which gave them an initial velocity (according to the arm) of from 600 to 1,500 foot-seconds, an axial rotation of 800 per second, and a penetration through oak, across the grain, of 5 to 6 inches at 3 feet from the muzzle. These rifles had effective ranges, varying between 600 and 2,000 yards.

At the present time the majority of the nations, with the exception of China, have armed their troops with modern magazine rifles, projecting their bullets by smokeless powder. These bullets are compound, consisting of a core of hardened lead, encased in a jacket usually of cupro-nickel or cupro-nickel steel, bullets cylindro-ogivol in shape, from 7 to 8 milimeters in diameter, and approximating 220 grains in weight. These bullets have a penetration, across the grain of oak at 3 feet from the muzzle, of 20 inches, an initial velocity of 1,800 to 2,300 foot-seconds, an axial rotation of 2,400 turns per second, and are effective at 4,000 yards. This, combined with the high rotary motion imparted by a rifle barrel having one twist of the rifling in nine inches, gives us, approximately, the projectile of the present day, minor differences in caliber, trajectory, and effective range existing between the various arms.

Noting the great changes in weapons and projectiles we can readily see how great must be the changes in the character of the wounds. The Civil War and civil practice have given unlimited opportunity for studying wounds inflicted by the old soft-lead bullet at all ranges, and most surgeons are familiar with the fact that these bullets frequently lodge, are deflected by bones, are distorted or flattened by impact upon the same, or make a detour in the flesh around them.

The Chilian War, the Spanish American and Philippine Wars, and the wars in China, South Africa, and upon the Indian frontier, have taught military surgeons that the modern bullet, with its small size, smooth surface, great sectional density, and high velocity, is practically never deflected by the tissues or bones of the body, rarely lodges unless spent or ricochet, and is but seldom distorted by bone.

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*Thesis, read before the Minnesota Academy of Medicine, June 4, 1903.

Experiments upon the cadaver have been of doubtful value, as their findings have not been verified in actual warfare, the result of wounds upon dead and inelastic tissues differing markedly from those sustained by men in action.

Several theories as to what causes the so-called explosive effect of the modern high-velocity, jacketed bullet, have been advanced, only one of which, however, has received serious attention, viz., the theory of the lateral transmission of force in every direction through the molecules of the tissues. The theories of projectile air and the hydraulic theory are unsound.

At certain ranges, usually within 350 yards, when the high-velocity bullet strikes certain enclosed cavities or encapsulated organs of the body which contain fluid or semifluid media, like the cranium, heart, liver, spleen, urinary bladder, and diaphyses of long bones, the explosive effect is manifested by tremendous destruction of tissues. Here the amount of injury is dependent upon the velocity of the bullet, its striking energy, area of impact, and resistance of the tissues traversed, and is exerted by the lateral energy of the bullet transmitted by the molecules of fluid or semifluid media in every direction, radiating from the long axis of the bullet, or caused by the energy of impact upon the particles of bone acting as secondary missiles and expending their force upon the adjacent tissues. The greatest explosive effect is observed at extremely short range where the velocity, rotation, and force of impact is greatest, and decreases with the distance at which the wound is received.

Medical literature prior to the war with Spain, led surgeons to expect that the explosive effects were much more prevalent than they were found to be in actual service, but it must be taken into consideration that the majority of those cases upon which the explosive effects have been manifested upon the head, liver, spleen, and heart are numbered among the dead, and never reach the surgeon's hands, which explains the relative infrequency of such wounds.

Opportunities of observations in the Philippines where the volunteers were armed with the old Springfield 45-caliber rifle, which fired a soft-lead 500-grain bullet, and many of the insurgents with weapons using a similar bullet, or the Remington 45-caliber brass-coated projectile, enabled comparisons to be made between the relative frequency of infection between the modern steel-jacketed bullet and the larger soft-lead missile.

Infection from the Remington brass-jacketed bullets coated with verdigris, as they were, was general, while the soft bullets were very prone to infect, especially where black powder was used, whereas it was remarked by all surgeons that wounds received from the undeformed steel-jacketed bullet were singularly free from infection, unless these bullets had passed through and carried an infection from such regions as the mouth, nose, bowel, or bladder. In a tropical country like the Philippines, where other wounds are peculiarly prone to sepsis, in a moist, warm atmosphere, teeming with vegetable and decaying matter, where plate cultures in the laboratories are almost impossible, it was remarkable that the great majority of aseptic bullet wounds was the rule. Cuban and South African surgeons have remarked the same.

Probably this immunity to infection, which did not obtain with the old bullets, is due in large measure to the polished smooth surface of the bullet, its close fit in the rifling which strips the jacket clean, the great velocity of its flight, and the fact that it rarely carries extraneous matter, as clothing, into the wound—all militate against infection. Some observers have attempted to elucidate the theory that the friction of the bullet in the air or in passing through tissues, is productive of enough heat to sterilize the missile; this has been exploded by the experiments which proved that the heat generated by passing through bone, three feet from the muzzle, was only 65° C.

Soldiers in the late wars, have carried and have been taught to use the so-called first-aid packets, which, while differing in the various services, usually consist primarily of antiseptic dressings and bandages, the whole in small compass and sealed in packets which render them impervious to perspiration, weather, or infection. The first-aid packet carried by every officer and man on active service in the U. S. army, consists of two small pieces of dry bichloride gauze, a sterile gauze bandage, and a triangular handkerchief bandage, upon the latter being printed the figure of a soldier with every conceivable use of the bandage illustrated, the whole package sealed in a rubber cloth envelope, and carried in the pocket or legging. It is the rule for the wounded soldier either to apply the first-aid dressings to his own wounds as soon as possible, or it is done for him by his officers, file-closers, surgeons, or hospital corps men.

Unquestionably, the more or less aseptic bullet, which inflicts the wound, and the prompt application of the first-aid dressing, which seals the wound before transportation or greater chance of infection occurs, are the two great contributing factors which have been responsible for the rarity of infection even in countries which naturally predispose to sepsis. So true is this that Professor Von Nussbaum's trite remark that "The fate of the wounded lies in the hands of the one who applies the first-aid dressing," has become epigramatic.

The comparative frequency of tetanus during the Civil War, viz., 505 cases, or 0.20 per cent of all wounded, made military surgeons apprehensive of a like experience during the recent wars. Fortunately, the high velocity bullet has been responsible for this disease in but four instances in Cuba, the Philippines, and China, and these cases were inflicted by richochet bullets, which had picked up and carried the infection from the soil.

The small-bore jacketed bullet commends itself to all humane nations for various reasons: first, this same immunity to infected wounds; second, from the fact that while its wounds ordinarily are severe enough to lose to the army the fighting unit hit, the relative mortality-rate of the killed to the wounded has been lowered from that of one killed to four and one-half wounded during the Civil War to one killed to seven and one-half wounded during the Spanish American War.

Observers in the Philippines and Cuba found that while men were able to make their way to the rear unaided, after being hit, the object of battle had been subserved, namely, of making the soldier a non-combatant for the time being. The British observers upon the Indian frontier and in Africa, in their expeditions against savage and fanatical tribes, noted that the modern bullet lacked stopping power, and that the peythans or dervishes were able to charge home after having been repeatedly wounded. This fact induced the British to make use of the "dum dum" or soft-nosed bullet, stripped of its steel jacket at the tip, which soft nose mushroomed or expanded upon striking bone, and inflicted a frightful wound, putting the man hit out of action immediately and usually permanently. This bullet is not used in civilized warfare, and although the charge of using "dum dum" or explosive bullets has been repeatedly made in the recent wars, the explosive effects inherent within the modern bullet itself at short ranges is responsible for the charges. This fact of the lack of stopping abilities of the steel-jacketed bullet demonstrates that shock from the impact is less than that from the old soft-lead smashing bullet.

Shock increases with the velocity of the bullet and its striking energy, and is influenced markedly by the temperament, environment, and state of mental excitement of the man when hit; yet many cases, even of grave injury, exhibit little shock. Even though the abdomen is perforated, many times shock is singularly absent, and it is only in grave wounds of the same, with visceral destruction or hemorrhage, in wounds of the cranium or spine, or in explosive wounds of the bones, that shock is markedly present.

Pain upon the receipt of a wound is rare, due in a measure to the fact that pain is influenced by the degree of mental excitement at the time of the injury, and by the fact that there is a certain amount of local shock and anesthesia for an indefinite period of time. Unless nerve-trunks or filaments have been interfered with, primary pain is unusual, although later there is generally more or less pain as the local shock wears away.

That the high-power bullet is humane has been shown, but greater emphasis is put upon that fact by the greater percentage of recoveries of the wounded as compared to the earlier wars. During the Civil War, fourteen and one-half per cent of the wounded died, while during the Spanish American and Philippine Wars, the mortality rate of the total number of wounded was but from 6 to 8 per cent. Here, of course, the antiseptic treatment of wounds is a factor of some importance in determining the percentage.

Although experimental work upon the cadaver led military surgeons to expect greater frequency of primary hemorrhage, warfare dissipated this theory as well. It is true that the majority of cases of primary hemorrhage die upon the field, and never reach the surgeon's hands and so are not reported, yet the wonderful immunity of the blood-vessels from injury has been marked and commented upon by English, Japanese, and American surgeons, and case after case has been reported to illustrate the point.

Unquestionably, wounds in the heart area are often received when that organ is in systole, so it escapes injury, yet they are frequent enough to be noted. Bullet wounds of the cavities of the heart, filled with blood as they are, are numbered among the class of explosive wounds. Most observers attempt to explain the immunity of blood-vessels from wounds by the theory that they are pushed aside by the bullet. This seems illogical, yet is the only solution of the fact offered. Primary aneurism following bullet wounds has been rare, and only three cases are reported from the Spanish American War. In each instance the main arterial trunk was ligated.

During the entire war there was not a single case of death reported from external hemorrhage from a bullet wound. Lodgement in the tissues of the undeflected high-velocity bullet on level ground and at moderate ranges, is very rare. Bruns never found it occur under 1,200 meters, and Von Coler and Schyering but once in 654 hits under 2,000 meters. Where, however, fighting is done at extreme ranges and the bullet loses its velocity, or upon uneven ground where chances of deflection are greater, much more frequent lodgement is observed. These conditions obtained in Cuba, and the surgeons found lodgement in ten per cent of all wounded.

In the Philippines much of the fighting was done either at long range or the enemy used defective ammunition, and the percentage of lodgement was high.

Gangrene, that dread scourge of the Civil War, fortunately was extremely rare during the late war. In Cuba but five cases from injuries to the blood-vessels required amputation, and in nearly all cases were the result of shell rather than bullet wounds.

GENERAL CHARACTER OF WOUNDS INFLICTED BY THE SMALL-CALIBER HIGH-VELOCITY BULLET

There are three factors which determine the character of bullet wounds, namely, physical quality of the tissue traversed, velocity of the bullet, and sectional density of the bullet.

Velocity bears a definite and inverse ratio to distance, and its effects are shown by the different character of wounds at different distances. Bullets generally produce perforating wounds, although they may be penetrating when the bullet has lost its velocity through distance or by ricochet, while lacerating wounds at short ranges are generally the result of explosive effects or distorted or deformed bullets.

WOUNDS OF ENTRANCE.—The undeformed modern bullet entering the body tangentally to the surface, produces a wound which is circular, and has a clear-cut punched-out appearance. The skin stretching slightly before the bullet makes the wound of entrance slightly smaller than the diameter of the bullet itself. The integument as it stretches and is pushed in by the bullet has the epidermis brushed off and the edge of the wound bruised, so that shortly after its receipt there is a narrow border of red about it. Shortly this ring and the wound itself become covered with a dark scab slightly larger than the bullet's diameter.

Bullets striking the body at an angle to the surface, produce different wounds, dependent upon the angle of entrance. They may be oval or slit-like, may gutter the side of a limb, or simulate an incised wound.

WOUNDS OF EXIT.—These wounds are, as a rule, of slightly greater diameter than those of entrance. When the bullet makes its exit at right angles to the plane of the surface, the wound is circular with somewhat ragged or stellate edges, due to the fact that the skin is pushed out, stretched, and then burst asunder, there being no tissues behind to support it, as there are in the wound of entrance. Bullets passing through the skin obliquely leave oval wounds of exit of greater or less size as the angle of exit varies. Many of these wounds are surprising in their extent. Where the explosive effects of bullets are manifested, the wounds of exit are frequently of large size, due to the fact that the secondary missiles, as fragments of bone and tissues, are blown out increasing the wound of exit and making it extreme when compared to that of entrance. When this occurs the wound is irregular and shattered in its aspect, and looks like the base of a cone with the apex the wound of entrance. Projecting from this wound are frequently tendons, strings of muscle sheaths, nerves, or blood-vessels. Wounds received from deformed or ricochet bullets are generally atypical, and many resemble explosive wounds, in which case they are accompanied by considerable laceration of tissue. They are more frequently infected from dirt picked up at the point of ricochet.

Bullets sometimes "tumble" at the end of their flight or where they have been deflected, and may enter the body broadside instead of end on. Here the injury may resemble an incised wound, and its severity depends upon the velocity of the bullet. Bullet wounds are sometimes multiple in that the jacket of the projectile is stripped from its hardened lead core, and both or fragments of either produce lacerated wounds. Again, dependent upon the soldier's posture, the same bullet may produce several wounds.

Usually the track of the bullet through the soft tissues is a clean-cut tube, with little bruising or destruction of the tissues adjacent. This tube quickly closes and simulates a subcutaneous wound in that it heals with great rapidity, and infection is very rare, although it occasionally occurs locally at the wound of entrance or exit where it is of small moment.

It has been remarked by all military surgeons how rapidly patients convalesce and return to duty after simple and uncomplicated flesh wounds, and how little are they inconvenienced by them. During the years 1898 and 1899, 68.8 per cent of all the gun-shots received were flesh wounds, which require but little treatment after they have been properly cleaned and dressed. The "let-alone" policy is the one upon which the greatest emphasis is laid by all observers, Dr Senn in particular maintaining that meddlesome secondary dressings were liable to do much more harm than good.

Bullet wounds of bone are of particular interest, and vary greatly as to their nature and extent, dependent upon the range at which they are received and the angle of impact of the bullet. Practically all small-caliber bullets striking the shafts or compact tissues of long bones, within the explosive zone, produce severe injuries: the bone is greatly shattered and the soft parts suffer much destruction from the pieces of bone and bone-sand blown into them and acting as secondary missiles, as has been mentioned, the wound of exit being especially severe. This is true whether the bullet strikes the bone fairly at right angles to its surface or when a glancing or grazing blow is struck. The extreme velocity and axial rotation transmitting its energy, in a lateral direction, is responsible for the shattering effect. While this is true of the diaphyses within the explosive zone, it is also true of the epiphyseal ends of the bones to a lesser degree. The lessened density of the cancellous tissue in the joint ends is responsible for less resistance, and the secondary effect of the bone missiles is not so pronounced.

As the distance at which the wound is received increases or the velocity of the bullet falls, the effect upon striking the shafts of bones becomes less marked, there is less comminution and the fragments increase in size until at ranges of 1,200 yards and over the fractures are largely periosteal and the fragments not detached from their membranes. At these ranges bullets drill clean-cut holes through the spongy joint end of bones, or gutter them if not direct shots.

Notwithstanding the fact that within the explosive zone the solution of continuity of the shaft is relatively great, modern surgical treatment has had no class of wounds to deal with which have yielded so kindly to treatment as have the fracture cases during our late war, even though infection was more frequent, due to a large absorbtive area, and many bullets lodged. When we note the enormous number of primary amputations done during the Civil War for gunshot fractures, and the mortality-rate attending them, the modern bullet ana the treatment of its bone wounds stand out in bold relief in all its humane characteristics. Taking, for example, gunshot fractures of the femur alone in the Civil War, there were 6,576 cases with 2,923 primary amputations and 186 resections, or 44.6 per cent of amputations with a mortality of 50 per cent.

During the Spanish American War, in the years '98 and '99, there were 82 gunshot fractures of the femur with 6 primary amputations and 2 resections, or 7.3 per cent of amputations; the other 92.7 per cent of cases were treated conservatively. In the 82 cases, 32 were of the upper third with 5 deaths or 15.6 per cent mortality, 27 were of the middle third, three were fatal or 11.1 per cent, and 23 of the lower third with one fatality, a mortality of 4.3 per cent.

During the Civil War, of the fractures of the upper third, 49.7 per cent were fatal and 42.3 per cent of the lower third.

During the Spanish American War in the years above mentioned, other amputations were correspondingly rare; there were but 3 of the shoulder, with 3 deaths (two were for primary injury of subclavian and axiliary artery); 5 of the arm, with no deaths; 8 of the forearm, with no deaths; 3 at the hip-joint, with 2 deaths; 10 of the thigh, (early and late) with 5 deaths; and 7 of the leg, with no deaths. So out ot the total of 4,919 wounded, of which 2,965 were of the extremities, there were but 32 primary amputations, all told. Except in the cases of extensive comminution, where drainage or resection was occasionally indicated, or where injuries to blood-vessels made amputation imperative, gunshot fractures were treated as in civil practice, with simple antiseptics or aseptic dressings, immobilization, and extension when indicated.

Injuries to joints from the high-velocity bullet have been among the most successful class of wounds treated. Quoting Makim, one of the South African Consulting Surgeons, he remarks: "No more striking evidence of the aseptic nature of wounds and the harmless character of the projectile as a possible infecting agent than that offered by the general course of these injuries, is to be found in the whole range of military surgery."

It was the almost universal custom of surgeons during our late wars in Cuba and the Philippines to refrain from interference in a surgical way with wounded joints. Resections of the elbow-joint were done in a few cases, and of the hip, once.

Amputations of joint injuries from the steel-jacket bullet were practically nil. Where they were performed, it was as a sequence to infected wounds usually made by the brass-coated lead bullet or shell. As in fractures, surgeons resorted rather to aseptic dressing and immobilization, and passive motion was commenced when safe. The joint was never opened, save when infected or extensively shattered; and in but one instance was a bullet removed.

Of 63 cases of penetrating wounds of the knee-joint in Cuba and the Philippines, by all bullets, there was a mortality-rate of 8 per cent, while 45.6 per cent returned to duty with perfect joints. Civil War records show a mortality-rate of 53.7 per cent, and it was a cardinal principle to amputate all limbs when so wounded, so practically every man so treated was discharged unfit for duty. Of the 19 cases reported before Santiago, there were no deaths and 73.6 per cent of the men returned to duty.

Injuries to the head constitute some of the most hopeless cases military surgeons have to treat. During our late wars they formed 39.3 per cent of all the immediately fatal gunshot injuries. Uncomplicated scalp wounds, like all other flesh wounds, do well. They are either penetrating, perforating, or lacerated wounds. Rarely is the calvarium grazed by the high velocity bullet without marked concussion of the brain, and comminution of the diploe, while usually there is extensive fissuring of all the tables extending even to the base. Within the explosive zone the destructive effect of the modern bullet upon the head is enormous: the entire cranial cavity is shattered and blown asunder as though from a shell wound, and it is only at extreme ranges, as 1,800 yards, that clean perforations begin to be seen. Lodgement of the bullet under 2,000 yards is rare. Even at extreme ranges small pieces of bone are driven into the brain and are usually found just within the wound of entrance, while some comminution at the wound of exit is common. This class of wounds, unless rendered thoroughly aseptic, are more prone to infection than any other. Hair is a frequent source of infection, while the nature of the tissues and fluids coinstitutes a good culture-medium. Few cases of extensive brain injury ever reach the surgeon, but help to form a large percentage of those whose wounds which are immediately fatal in action. In the Philippines there were three recoveries from grave injuries, where an entire cerebral hemisphere was involved, while two cases of pertorating wound, involving the same, lived 12 and another 16 days. The frequency of recovery from perforating wounds of the frontal lobes has attracted the attention of all surgeons. The mortality during the Civil War from brain injuries was 59.2 per cent, while in the Spanish-American and Philippine Wars out of 68 cases reported 37 died, or 54.4 per cent mortality. Head injuries offer a more extensive field for surgical intervention, and exploratory procedures are indicated following trauma resulting in fracture with depressed fragments, symptoms of brain-irritation, pressure of hemorrhage, Bone fragments should be removed, hemorrhage controlled, destroyed brain tissue removed, the wound thoroughly cleaned, and drainage used in occasional cases. Lodged bullets, unless giving symptoms, should not be looked for, and only then after proper *x*-ray examinations, and with modern instruments for cerebral localization. Wounds of the face do especially well, whether they are simple flesh wounds or involve the bone, save where the denser lower maxilla is involved. Bullets have been found lodges in the antrum or nasal cavity, and gunshot wounds of the eyes are not uncommon—they invariably result in the loss of the ball involved. Facial gunshot injuries do especially well, and unless infected from one of the cavities, they heal rapidly, for the great vascularity of the region and the fact that no clothing assists infection aids rapid healing, with relatively good cosmetic effects.

Wounds of the neck, from the great number of important structures endangered, must of necessity be among the graver injuries, and they furnish 7.6 per cent of all the immediate fatalities of the late wars, yet it is a matter of great surprise to note how little destruction of vital parts there may be, and how kindly these injuries heal. Of the 60 thus wounded, but 12 died.

Injuries of the spinal column and cord were almost universally fatal, death generally occuring from meningitis within four days. Of 11 wounds reported, 9 died, and 2 were discharged, and 1 died later. In one of the fatal cases laminectomy had been performed. While 35.5 per cent of all immediately fatal gunshot wounds are those of penetrating wounds of the chest, yet in no class of cases has the steel-jacket, high-velocity projectile shown itself to be so humane, for in this instance the small sectional area and high velocity produce the minimum of injury to the thoracic viscera. It has been generally remarked how frequently the great vessels,—heart, esophagus, trachea, and large broncha,—escape injury, and the theory has been advanced that these viscera are so freely movable, surrounded, as they are, by loose cellular tissue, that they are pushed aside by the bullet at the moment of impact, especially if its velocity is low.

It is in the lung tissue that the least injury results from perforating wounds. The elastic cellular quality of the tissues explains the very small tract of wounds following injury. These wounds close at once, and external hemorrhage from them, unless an intercostal artery has been injured, is almost unknown although there is occasional bleeding into the pleura, but two cases of aspiration of the pleura for blood are reported in our recent wars. In a very few cases severe pulmonary hemorrhage results. These are among the fatal cases, yet many recover if the engorgement is not extensive enough to seriously impede respiration. Makin observed in South Africa that when the wounded were kept quiet, pulmonary hemorrhage occurred in but 30 per cent of all cases, whereas when they had to be transported long distances, it was 90 per cent of all cases.

Out of 78 cases of perforating gunshot wounds of the chest brought into the First Reserve Hospital in Manila, 10 were dead or died within 24 hours; of the 68 cases left, 44 were known to be wounded by the small-bore bullets, and the rest by Remington or revolver bullets. Only 5 of the 44 were infected, that is, 88 per cent were aseptic wounds, whereas 50 per cent of the other wounds were infected.

During the Civil War there were 8,403 cases of penetrating wounds of the chest reported, with 5,260 deaths, or 62.6 per cent mortality, while our late wars show 198 cases with 55 fatalities, or 27.8 per cent mortality. The treatment of these injuries was rarely operative. Very few instances of rib resection or aspiration were reported. In the main aseptic dressings and quiet were all that was necessary for recovery, and in no class of cases were the wounded so difficult to restrain and keep recumbent, so little were they inconvenienced by their hurts, and a return to duty within ten days was common.

At the beginning of our recent wars, military surgeons approached the subject of penetrating wounds of the abdomen with the assurance bred of a long series of brilliant and successful operative procedures in civil practice, which held out the hope that in this class of cases, at least, modern surgery had made such strides that the frightful mortality-rate of the Civil War, namely 90 per cent, would be more than cut in two. It was known that 15 per cent of all wounded were hit in the abdomen, and that 11 per cent were immediately fatal from hemorrhage, yet the hope was that greater knowledge and improved technique would save the majority of the 4 per cent which reached the surgeons. Early in the war, the distressing conclusion was forced upon the observers that if the mortality-rate was lessened, it was not due to operative skill or dexterity or zeal of the surgeons, but, rather, to the more humane nature of the wounds themselves as made by the new bullet. After a battle where there were a large number of wounded, many of whom lay on the field for hours before they were transported to the overcrowded field-hospitals, and from these over miles of rough road to the base-hospital, it sometimes happened that 24 hours elapsed before severely wounded men were received where the facilities for extensive or minute operative procedures were available. At the end of this time, in abdominal wounds, infection has already taken place, or the greatest danger is passed. Field-hospitals were of necessity collecting stations for large bodies of wounded where humanity made it imperative, for the greatest good to the greatest number, that the more fatally injured, requiring extensive operative procedures and much time to perform them, be passed for those whose lives were more certain to be saved by first attention. It meant the sacrifice of the few for the many. These were emegency hospitals, which were liable to be called upon to advance or retreat with the troops at any moment, where the water supply was oft-times limited or uncertain, where the facilities for heating were wanting, and where a few surgeons were called upon to do an enormous amount of work, and where from sheer force of circumstances and environment the refinements of the modern operating and aseptic detail must of necessity be in a measure lacking.

Those cases in Cuba where the abdomen was opened in the field-hospitals all died, only 4 in all, but enough to teach the surgeons the lesson later learned in the same bitter experience by the surgeons in the Philippines, where 7 cases were operated upon, and all but one died.

The British surgeons in the Tirah campaign had already learned the lesson from a mortality of 100 per cent out of 8 cases operated upon, while South African observers but added their weight of testimony, which formulated the rule, that in primary perforating wounds of the abdomen, operation is rarely justifiable.

Makin states that in South Africa every patient in whom an absolute diagnosis of bowel perforation was made died, and that those which recovered were probably cases in which it did not occur. He operated upon 8 cases with 100 per cent mortality.

Morton and Grant found even in civil practice, where patients were usually received early and where every operative facility obtained, that the mortality-rate was from 52.5 per cent to 58.9 per cent.

In war wounds in no other class of cases is the mortality-rate as high. During the Civil War, out of 3,475 cases 3,031 died, or 87.2 per cent. During our late wars of 116 cases, 81 died, or 70 per cent, so we see that where the "let-alone" or expectant treatment was followed, recovery occurred in 30 per cent, while the mortality from operative interference was 99 per cent.

It was noted that wounds above the umbilicus, upon, one recovered, but in this instance the involved, were much more liable to recover than where perforation of the bowels occurred. Short rations, long hours between meals, and where the stomach and bowels were empty, were in many instances, the cause of recovery of the few cases, as the well-known tendency of the muscular coats of the bowels to retract and obliterate an opening upon receipt of injury may have aided in the prevention of infection and assisted healing.

In the First Reserve Hospital at Manila of 45 cases of penetrating gunshot wounds of the abdomen brought in 8 were dead or died within 24 hours; of the remaining 37, 34 were from the modern bullet, and of these 30 were treated expectantly, and 10 died, or 62.3 per cent of recoveries. The other four cases were operated upon, one recovered, but in this instance, the intestines had escaped injury, so expectant treatments of these wounds is the rule, save in rare instances where operative facilities are of the best, the injured man is received early, and where the greatest good to the greatest number does not have to be subserved.

CONCLUSIONS DRAWN FROM A STUDY OF THE MODERN HIGH-VELOCITY BULLET WOUNDS.

1. Refrain from meddlesome treatment of wounds; the more frequently dressings are changed in the field, the greater is the danger of infection.

2. The peculiar lack of susceptibility of the blood-vessels to wounds, and the rarity of external primary hemorrhage.

3. Lodgement of the projectile is relatively frequent, due to battle ranges of the present day, but it should rarely be removed unless it causes trouble.
4. Primary amputations are rarely necessary save as a sequence to shell wounds or great infection.
5. Fracture cases do as well as those in civil practice.
6. Infection from the undeformed bullet is rare.
7. Head wounds still constitute one of the most fatal class of cases, and require most frequent operative interference.
8. Joint wounds are among the most favorable class and generally result in perfect function.
9. Thoracic wounds, unless immediately fatal, recover with few complications.
10. Tetanus and gangrene are so rare, they are almost the exception.
11. Abdominal perforating wounds constitute the most serious class, and should not be operated upon.
12. That the high-velocity steel-jacketed projectile is a step forward towards accomplishing the end of all wars, viz., disablement of the enemy, and it goes a step further in that it accomplishes this end with the minimum of death, suffering, and maiming, and more often returns the soldier to his country, state, and friends a useful and self-supporting member of the community.

THE RELATION OF THE MEDICAL PROFESSION TO THE ENACTMENT OF LEGISLATION UPON QUESTIONS OF PUBLIC HEALTH*

By Richard Olding Beard, M. D.

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MINNEAPOLIS

The protection of the public health is a public trust which has been committed, for the most part, to the keeping of the medical profession. This charge upon the physician has been naturally consequent upon his relation to the health of the individual. And the charge was a very direct one in the small communities of an earlier day, when the health of the mass was the simple sum of the health of its units, when the chemical agencies of air and earth and water were sufficient for the task of waste-disposal, when pathogenic bacteria easily sustained a natural dilution which diminished their virulence, when the spread of contagion was limited by the difficulties of intercommunication, and when the local supply of pure air, pure water, and pure food was equal to the demand. But with the development of large centres of population and with the increase of the facilities of travel, the problem of the public health has become a very complex one. The massing of human beings means that their waste products accumulate beyond the capacity of the natural forces of destruction to dispose of them; that air and earth and earth and water suffer an inevitable polution; that food supply is necessarily artificial, is subject to ready deterioration and adulteration at the hands of its unscrupulous purveyors; and that disease-producing agents multiply in direct ratio to the reduction of cubic space.

So vast a labor and so difficult a task has the solution of this health problem become that the public health has necessarily evolved into a public charge. A public-health service has gradually been organized under the control of sanitary laws; and the bacteriologist, the sanitary engineer, and the sanitary chemist have been born of its needs and educated to its employ. Medical men have been the necessary organizers and remain the natural counsellors and directors of this system.

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*Read before the Minnesota State Medical Society, June 19, 1903.

The medical profession has been the sole source of the scientific authority upon which sanitary legislation has been based, and it continues to be the logical executor of the will of the people in matters of public hygiene. The police power of the state has been necessarily invoked for the enforcement of sanitary laws, but the physician is properly the officer who applies this power. State and local boards of health, state dairy, food, and live-stock commissions, the coroner system, medical examing-boards, and the like are controlled or necessarily assisted by medical men. In its relation to the public health, the service of the medical profession has been very largely a labor of love. It has made the organization and often the conduct of the health systems of the state a free gift to the people. It has exhibited, in the performance of this public duty, a public spirit which justifies its exemption from other civic calls, and proves that voluntary is often as valuable as compulsory service to the state.

There is a point of weakness, however, in this relation between the physician and the public health service, and this is the fact that it is individual rather than corporate. There has been no want of devotion in the service, but there has been a want of organization. The result has become apparent. As the sanitary system of the state has grown great, the influence of the individual in its direction weakens, and it has not yet been replaced or sustained by the effective influence of the profession *en masse*. As problems grow more complex and the individuals engaged in their solution multiply, the variations in individual method and the differences in individual opinion become a bar to the attainment of the best practical results. If the associational quality in work and the consensal quality in opinion are wanting, disorganization and confusion are the natural consequences. A campaign can never be successfully conducted by a multiplicity of leaders operating independently of a chief commander or a general staff. It degenerates into guerilla warfare at once. Scientific progress can never be achieved by personal research alone. It must correlate itself with the great body of scientific workers, since authority can only be established by agreement.

The want of organization in the profession of medicine and in the scientific bodies allied to it, has been painfully apparent during the past few years in the absolute failure to secure medical and sanitary legislation. In the past its members have been the recognized initiators and promoters of health measures; they have been the counsellors of legislation, the authority upon which legislative enactment has been based. In their home communities to-day they are too few in number or too wanting in public power to exercise any material influence upon the politicians whom their votes help to elect. Above the employment of venal means to secure a fair consideration for their representatives, and without solidarity enough to compel that consideration, the medical profession, through its legislative committees, has persistently but ineffectively urged these health interests upon the comatose conscience of one legislature after another, and to no result. To the end, indeed, of worse than failure of practical results have these representatives labored; for their patient presentation of this disregarded cause, their refusal to adopt doubtful methods of influence, and their courageous criticism of those who, for unworthy motives, have blocked the progress of salutary reform, have incited in the minds of legislators a retaliatory fear of medical measures and medical men. During the session of the late legislature, one of my colleagues and myself met, by appointment, a committee of the senate for a hearing upon the proposed revision of the medical practice act and upon the since successful osteopathic bill. Upon reaching the committee-room at the appointed hour, we were informed, without apology, that the osteopathic bill had been that very morning reported by this committee to the senate with a recommendation to pass; that senators in a republican chamber had agreed among themselves not to entertain any medical measures, however commendable, and to give no hearing to medical men. So does fear frequently become insolent! And the man who, uncontradicted by his associates, made that statement had been actively opposed at his election by medical men!

That legislature pigeon-holed an admirable codification of the loosely drawn and contradictory health laws of the state, it passed an antivaccination bill, it enacted a law licensing osteopaths, it treated to indefinite postponement the revised medical practice act, it passed two or three food laws of minor value, it created a sanatorium for consumptives with an appropriation so small as to be practically prohibitive of progress, and it took out of the able hands of the State Board of Health the department of animal diseases and placed it under the novel control of a body representing commercial interests alone.

Your committee upon medical legislation interested itself in all of these measures, while it concerned itself especially with the revision of the medical practice act and the attempted defeat of the osteopathic bill. At both points it was beaten, but not overcome. It had to contend with an order of intelligence far below the average of that of the professions whose interests and relations to the public that intelligence sought to regulate; it had to deal with a careless disregard of existing conditions which demanded remedy, with an indifferent ignorance of scientific authority which would be deplorable in the ordinary citizen and is criminal in the legislator who is charged with the fulfillment of the public need and sworn to the consideration of the common good. It encountered everywhere a deep-seated prejudice against medical legislation, for which it behooves us to account, and which it is incumbent upon us to remove. A more discouraging outlook could hardly obtain, but the very aggravation of the evil must spur the profession to the adoption of measures of practical relief.

It must go back to first principles in its relations to the public. Those relations need to be restored, for, in the delegation of his functions as a conservor of the public health to chosen officials, the physician has surrendered too much of the authority which he exercised in his own community in the past. He has lost some measure of incentive to the cultivation of that public spirit which is demanded of him in larger degree than of others because he is exempt from the performance of ordinary civic duties. He must keep himself in touch with the development of sanitary science; he must make himself once more, as he was of old, the recognized exponent of hygienic principles, the guide to the achievement of the best sanitary system, the apostle of disease-prevention, as well as the agent of disease cure. He must rid himself of the taint of commercialism, that "contagion of the world's slow stain." from which escape is so difficult and surrender to which is so easy, and he must give something of himself to the education of the public and the service of society. From that vantage ground he can speak with authority, and make himself a power among the people. He must impress himself upon the political movements of his day, not in the search for office, but in his dictation of certain of the issues of a political campaign and in his aid to the selection of candidates who can be trusted to carry into effect the health measures which are the product of a consensus of scientific judgment.

The legislative candidate must be studied with careful scrutiny by the profession whose community interest he serves, and his interest in and consideration of suitable legislation must be pledged. He must go to the legislative chambers with the instructions of his medical constituents, and those constituents must follow him to the close of his political career.

As I have briefly intimated, the medical profession of the state must be organized in the interest of sanitary and scientific legislation. Its best authorities must voice in local and state conventions the consensus of medical opinion in respect to the subjects and the form of proposed measures. It must carry on a campaign of education, firstly, of its own members, secondly, of the public at large and, lastly of its legislative representatives. It must develop a literature of public hygiene which shall record the evolution of sanitary methods and illustrate the details of sanitary progress. In season and out of season it must be unselfish enough to preach the gospel of prevention, and to inspire the people with the knowledge of the things which, in this their day, belong unto their own sanitary welfare. It must equip its legislative committee for the practical execution of this service more generously than in the past. It must stand back of its representatives loyally, and lend itself to the active support and influence of practical legislative results.

Your committee upon medical legislation sent out an appeal to every member of the state society in the extremity of its legislative fight, and it received less than twenty answers to that Macedonian cry. With money and energy and enthusiasm back of them was it any marvel that the osteopaths won? Without means or purpose to buy votes, without encouragement or support from the great body of the medical profession, do you wonder why, despite weeks of arduous effort, your representatives were whipped?

But the medical profession, ineffective as it has been in its late efforts, has no intention, I take it, of staying whipped. It is responsible still for its own interest and those of the public health. It has a public policy to determine. The practice act of the present does not fulfill the needs of to-day. The late proposed revision, which was put into the hands of every member of the society, was in the judgment of your committee, fitted to the requirements of the present day. If such a revision cannot be secured by a united, organized, actively militant profession, I would suggest that it is a question whether it would not be better off with no legislation at all. Indeed, during the several years in which I have been more or less actively engaged in the study of, and in the endeavor to influence, medical legislation, a doubt has gathered in my mind of the benefits we derive from the present act, and I have been inclined to question whether, after all, there is not forceful argument in favor of the Massachusetts plan, which leaves the professions to work out their own salvation, upon the principle of natural selection, unaided and unhindered by the law. Surely, it were better that we had no legislation at all than to be controlled by a system which is not progressive and by a law which cannot be enforced.

In union there is strength, and not only is it desirable that the medical profession should be more effectively organized for the direction of medical legislation, but it were well for it to join forces with allied professions or callings whose legislative interests are sympathetic with its own. A working combination should be effected between the legislative committees of the professions of medicine, dentistry, and pharmacy, associated with representatives invited from the several state boards of examiners and of health, and common action and influence should proceed from them upon all legislative measures. I was requested by vote of the State Pharmaceutical Association, at its annual meeting at New Ulm two days ago, to bear to the State Medical Association its greetings and its invitation to join in measures looking to such co-operative action, and I have no doubt that other allied bodies would eagerly respond to a suggestion of such concerted movement.

The measures which medicine and the allied professions bring before the legislature are scientific in character. They demand scientific consideration, expert study. Few members of a state legislature have any fitness for the fulfilement of his demand. Their ignorance of existing conditions and of present needs is usually the most dangerous factor in the determination of the fate of such measures.

I would suggest the introduction of a reform, in the direction of the example of foreign parliamentary bodies, which the influence of the medical profession might determine—a reform to be attained by the enactment of a law directing the reference, by the legislature, of all questions affecting the public health to an expert commission, to be appointed by the governor of the state, which should report to the legislature its findings upon the merits and the form of such measures, and upon the relation which they bear to the public good.

THE FUNCTION OF A CITY HOSPITAL

By H. M. Bracken, M. D.

Secretary of the Minnesota State Board of Health

MINNEAPOLIS

It would seem that upon a city hospital rested the responsibility of caring for

(a) Emergency cases that cannot be promptly and properly cared for through other channels.

(b) Cases which require medical care that cannot be given through other hospitals, and

(c) Those individuals who have not the means to secure proper medical or surgical treatment at home.

The City Hospital of Minneapolis is comparatively a new institution, and apparently has not as yet reached the point of fulfilling all of these requirements. If we compare its present condition with that which existed not more than ten years ago and note the improvement that has taken place during that period there is every reason to hope that in the near future it may be beyond the pale of criticism.

Its present weak points were illustrated quite recently by a death which occurred in the jail, the disease from which the patient suffered having been classed as acute alcoholism, and as such excluded from the City Hospital's care because there was no place provided for such patients. Acute alcoholism most certainly belongs among the emergency medical cases, and if no provision has been made in the past for the care of such cases the conditions cannot be changed too soon.

Not long since a poor woman was refused admission to the City Hospital. Friendless she was compelled to remain in the county jail (though not in any sense a criminal) until she died. It was right for the City Hospital to refuse this woman, who was suffering from erysipelas, admission into the general wards, but if there is not there should be quarters in such a hospital for the care of erysipelas patients.

The City Hospital, and not the jail, should provide medical care for the sick.

Not long since the Health Commissioner of Minneapolis was indicted by the grand jury for neglect in the care of smallpox patients. The care and responsibilities of the quarantine hospital should not rest upon the sanitary officials. It is a sanitarian's duty to tell when a danger exists, and when it has ceased to exist, but it is no more his duty to assume the responsibility for the medical care and nursing of smallpox cases than for tuberculosis, typhoid fever, diphtheria, scarlet fever, or measles.

The city has a hospital and is provided with all the necessities for its decent care and management. It has its contagious ward for tuberculosis, scarlet fever, diphtheria, etc. It should have a place for the care of smallpox patients also, or, to put it in other words, it should have the burden of responsibility and care of the smallpox hospital. The City Hospital has its staff of physicians and nurses. Certain of these should be delegated to care for the smallpox patients when necessary. A sanitarian's responsibility in dealing with smallpox cases consists in—

(1) Satisfying himself as to the existence of the disease.

(2) Safeguarding the public by establishing quarantine; safeguarding the case by turning it over to the proper authorities for medical care and nursing, and

(3) Regulating the release of quarantine when the case has recovered.

Such now is a sanitarian's responsibility in dealing with scarlet fever and diphtheria.

The old idea that smallpox is a disease to be handled differently from other diseases *and in a pest-house* should be a thing of the past. The term "pest-house" belonged to past ages, and should no longer be used. The term itself is enough to cause a feeling of dread, both in the patient and his friends. People ill with infectious diseases are compelled by law, for the safety of the public, to go into isolation. People with ordinary ills are at liberty to choose whether or not they will go to a hospital. Those hospitals provided for patients compelled to go to them should be as good as, or even better than, the ordinary hospital. The smallpox hospital should simply be an adjunct to the city hospital. Fortunately, the smallpox hospital in Minneapolis is well constructed and equipped, through the generous action of its public spirited citizens, and in no way deserves the name of *pest-house.* Its quarters are well arranged for the patients in the general ward, or for those who may seek privacy in rooms especially set aside for that purpose.

Let the responsibility for the care of smallpox patients in Minneapolis be placed where it properly belongs, and the Health Commissioner will no longer be subject to indictment for neglect of duties that are not properly his.

The care of the City Hospital is under a board of control. If the board cannot meet these demands upon the City Hospital with the present means at its command, let it appeal to the citizens for aid. The willingness of the people to deal with emergencies is well illustrated by the action that was taken a few years ago in providing funds for the construction of the smallpox hospital.

SUCCESS.—The successful physician is one whose attainments are recognized by the profession, and whose work stands well with the laity. —Dr. J. F. Bond.

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NEW AIDS IN DIAGNOSIS

The number and complexity of the procedures necessary for accurate diagnosis in medicine has reached such a point that the general practitioner and the specialist find themselves unable to keep pace, both in equipment and in experience, with all the many avenues along which the science and the art in medicine of to-day are making such rapid strides.

While the internalist, the surgeon, the specialist, or the general practitioner is able to utilize many of the arts of the pathologist or bacteriologist, it frequently happens that special skill and experience in these lines are required. Thus it is that the worker in pathology and bacteriology is coming into closer touch with workers in other lines, and the laboratory is being brought nearer to the bedside. The combination offered by the internalist and the clinical microscopist is very effective, and it would seem as if diagnoses would be more accurately made.

The investigation of clinical products through the microscope is exceedingly helpful to the physician in many cases; yet in other cases it is misleading, speculative, or bewildering, if one depends upon the lens rather than upon the careful study of the patient and the clinical manifestations plus the lens. As the science of medicine is still undeveloped, and diagnosis is uncertain in the early stages of disease, the physician must wait until the evidences are unmistakable before a conclusion is reached.

Unquestionably, a diagnosis may be made early in many cases where the microscope is under the eye of an experienced man, and errors of diagnosis avoided, while more accurate prognosis will take the place of hasty and vacillating statements.

The older men in medicine, unless they are keeping step with the fleeting days of progress and advancement, are inclined to rely upon observation and experience under old-time methods. Perhaps the younger man errs on the other side, and depends largely or wholly on the microscope for his diagnosis. The one should adjust his experience with the other to establish scientific medical harmony.

Patients of the present day are being educated to the needs of analysis, and are willing to contribute their fluids for inspection. Students of to-day are trained in every-day analytic work, and make analysis of ordinary secretions or examine blood in a manner and with a skill that astounds the older practioner who had no such advantages. The past ten years have opened up so many new pathways for investigation that trained microscopists are a necessity. The busy practitioner needs such men to help and to quicken the arrival of a conclusion, particularly in cases where the onset of disease is obscure and its course is atypical.

FIRE AT THE UNIVERSITY.

A fire which scorched the dental department in Medical Hall on the night of July 23, damaged the building to the extent of two thousand dollars. Fortunately, the rooms and floors occupied by the colleges of medicine were not enveloped by the flames, consequently there will be no delay in the course of lectures.

The medical school opens earlier this year than ever before. The course has been lengthened necessitating the opening of the college year the first, instead of the fourth, week in September. The attendance promises well, and the arrangement of the lectures and clinics will be distinctly advantageous to the student. Clinical material is abundant.

DEATHS FROM TETANUS

The unusual number of deaths from tetanus from Fourth of July injuries is a subject for grave consideration. The tetanus bacillus has either been more virulent or the numbers have greatly increased. From the fact that the majority of cases have arisen from accidents from canon-crackers leads one to enquire into the manufacture of these goods. Whether it is possible to introduce or incorporate the germ into the wrapper or wadding of the cracker and not destroy its activity by incomplete burning of the paper, or the multiplication of the bacillus in general is responsible, is for the bacteriologist to determine.

Tetanus from other injuries, such as nail wounds, etc., is not so generally fatal if the reports of recoveries are to be credited. During the past two months two recoveries from tetanus have been authenticated, both due to nail injuries. Both cases were doubtless mild, or both individuals were endowed with unusual resisting power.

The use of antitoxin in tetanus has not produced the brilliant results anticipated, although the serum has been used in the early, as well as in the late, stages of the disease. Perhaps too much reliance has been placed on the serum, and not sufficient attention paid to other remedies.

The reports of recoveries from tetanus are as misleading as the reports of recoveries from similar germ diseases. In one locality or from like causes the cases show a large percentage of cures; in another locality, even though the cause is the same, no recoveries are reported. The remedy, whatever it is, seems to have but little influence on the result; yet every cure and its remedy, however simple, should be carefully reported.

The first indication in the treatment of tetanus is to minimize the dangers from a wound by prompt cleansing and dressing; favorable position of the wounded member to promote the activity of the lymphatics; superficial or local sweating, if possible, and the energetic application of eliminatives and supportives. The administration of large doses of sodium salicylate, saline laxatives, fluids extract of veratrum to the point of toleration, are the rational remedies in the absence of an antitoxin. They may be used in conjunction with the serum if the case promises to be at all serious. After the initial stage of the disease has increased in fury the treatment should be supportive. Salt solution by hypodermoclysis, digitalis, and caffein, and the use of bromides in large doses, are advised.

It is to be expected that the day will come when a more reliable serum will be discovered, one that will prevent or cure a larger number of cases of tetanus.

WESTERN MEDICAL EXAMINATIONS

The South Dakota State Board of Medical Examiners held their first examination last month under the new medical practice act, which, it is believed by its friends, is one of the fairest and best yet enacted in any state.

Twenty physicians took the examination, and all but three were granted certificates. The examiners were very much pleased with the high character of the papers handed in, and especially with the uniformly high average in some subjects, notably surgery and bacteriology, four papers upon these subjects being marked 100. The eastern men said that the examination was as rigid as any examinations given in the eastern states, and that it was eminently fair.

The examiners noted one fact that is very significant, and, it is to be feared, it is only too evident in all examinations: the standings were the lowest in the elementary branches, such as physiology, anatomy, etc.

The North Dakota examination was taken by twenty-eight applicants, and twenty-four were granted certificates. The excellent character of the papers was noted also in these examinations.

The Washington examination was taken by eighty-six applicants, but we are not informed how many received licenses.

The Minnesota examination was taken by one hundred and twenty-nine physicians, and one hundred and eleven received certificates. Graduates of the State University predominate in this examination. The standard of their papers this year was not up to the usual mark, while the papers of the graduates of Hamline showed a better average than in the past. We shall not attempt to seek the reasons for these facts, but they must have a significance for the professors of both institutions that is worth considering.

There are some features of these examinations that The Lancet takes pleasure in pointing out, and they have been mentioned before in these columns. The papers show, unmistakably, that the western states, particularly the northwestern states, have raised the standard of requirements to practice to a point beyond that of any other group of states; and, as a necessary corollary, the men who are now going into practice in these states are correspondingly equipped for their work. The latter fact is especially emphasized by the news items appearing in every issue of The Lancet, for here we announce, and we announce it with pleasure though it may seem monotonous to our readers, that Dr. So and so is spending a few weeks or months in special study in the hospitals and schools of the Twin Cities, of hicago, of Johns Hopkins or of some eastern city, and not a few, indeed, in the hospitals and schools of Europe.

These facts are full of meaning to the physicians (old and young), as well as for, if not to, the laity of the northwest.

AN ASEPTIC NEWSPAPER

The Huron (S. D.) Journal-World and its managing editor, Mr. W. E. Holbein, deserve great credit for a clean sheet, and a refreshing freedom from offensive advertising. This paper does not carry in its columns the advertisement of a patent medicine or a medical fakir. A country newspaper that has the courage to exclude such matter and the moral strength to decline a source of revenue from such advertising should receive applause, commendation and support from every right-minded physician. The people of Huron are to be congratulated upon the presence of such a man as Mr. Holbein, and Mr. Holbein is to be congratulated for living in a community that will support a clean and reputable paper.

The Lancet extends its compliments, and expresses the hope that more country papers will follow this good example. It is vain to expect that the city dailies will follow this twentieth century leader—the revenue is too great from photographically illustrated testimonials, fakirs of nauseating fame, and luring advice for criminal acts.

Let us look forward to the time when the people shall be educated to read the news and not to waste their gray matter on useless, nasty and body-destroying advertisements.

BOOK NOTICES

First Principles of Otology.—A Text-book for Medical Students. By Albert H. Buck, M. D., New York City, Clinical Professor of the Diseases of the Ear, College of Physicians and Surgeons, Medical Department of Columbia University, New York, etc. Price $1.50, New York: William Wood & Company.

Authors of medical books are just beginning to learn, from criticisms, that the book which is written for the specialist is not the one best adapted for the beginner, and consequently there is a change taking place, and we find a few excellent text-books written for beginners.

In this manual Doctor Buck has made a splendid selection of material, which is most important for the medical student to learn, and has arranged his subject in a systematic manner. He has succeeded in presenting each subject in plain language, without waste of words, and has not inserted matter which would be useless to the student.

For such a small book it is well provided with black and white illustrations. The book is bound in cloth, and the print and paper are good.

The reviewer believes that the book will prove of value, not only to the medical student, but to the general practitioner, who, being too busy, can not take time to make a special and extended study of the ear, but who may desire to acquaint himself with the more important and common diseases of the ear.

Frank C. Todd.

The Care of the Baby. A Manual for Mothers and Nurses, containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. Crozer Griffith, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Physician to the Children's Hospital, Philadelphia. Third Edition. Thoroughly Revised. Handsome 12 mo. volume of 436 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $1.50 net.

Dr. Griffiths manual on the "Care of the Baby" is without question the best work on the subject we have seen. The fact of a third edition being called for within such a short time, is sufficient evidence of its popularity. In preparing this edition every part of the book has been carefully revised and brought fully in accord with the latest advances in the subject. Several new recipes have been included in the appendix, making this excellent part of the work even more complete than before. A large number of new illustrations have been added, greatly increasing the value of the book to mothers and nurses. As we mentioned above, of the many works on this important subject that have come to our desk, this is, undoubtedly, the best, distinguished by soundness of advice, conciseness of expression, and clearness of style. Physicians could not perform a better service for their patients than the recommending of this excellent work to every mother.

Bacteriological Technique. A laboratory Guide for the Medical, Dental and Technical Student. By J. W. H. Eyre, M. D., F. R. S., Edin., Bacteriologist to Guy's Hospital and Lecturer on Bacteriology at the Medical and Dental Schools, etc. Octavo of 375 pages, with 170 illustrations. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, $2.50 net.

This book presents, concisely yet clearly, the various methods at present in use for the study of bacteria, and elucidates such points in their life-histories as are debatable or still undetermined. Moreover, it does not encumber the student with the many uncertain methods usually crowded into books of this kind, only those being included that are capable of giving satisfactory results even in the hands of beginners.

The excellent and appropriate terminology of Chester has been adopted throughout. This is a very commendable feature, as Chester's terminology needs but a trial to convince one of its extreme utility; and its inclusion in an elementary manual is calculated to induce in the student habits of accurate observation and concise description.

The illustrations are numerous and practical, the author considering that a picture, if good, possesses a higher educational value and conveys a more accurate impression than a page of print.

The work is not intended for the medical and dental student alone, having been designed with the needs of the technical student generally constantly in view, whether he be of brewing, dairying, or agriculture.

NEWS ITEMS

Dr. W. B. Brown has been elected city physician of St. Cloud.

Dr. A. J. Moe, of Heron Lake, has opened a hospital at that place.

Dr. A. D. Whiting, of St. Cloud, is doing special work in New York.

Dr. J. H. Heimark, a graduate of Hamline, has begun practice at Cyrus.

Dr. F. G. Reineke, of New Ulm, has gone to Germany for special study.

Dr. K. F. Gryttenholm, of Zumbrota, has gone to New York for special study.

Dr. A. Torland, who graduated this year from Hamline, has located at Audubon.

Dr. J. L. Devine, a graduate of the State University, has located at Buford, N. D.

Dr. H. L. Artz, of Jackson, is doing post-graduate work at Rush Medical, Chicago.

Dr. J. E. Craymond, of Rugby, N. D., has moved to Bottineau in the same state.

Dr. J. B. Dunn, of St. Cloud, will spend several months in Europe in special study.

Dr. G. M. Strout, of Winthrop, was married last month to Miss Eva Scott, of Minneapolis.

Dr. A. F. Groves, of Brainerd, has taken Dr. Joseph Nicholson, of Minneapolis, into partnership.

Dr. R. F. Bacon, a graduate of Milwaukee Medical College, has located at Garden City, S. D.

Dr. P. E. Sheppard, of Hutchinson, has returned home from Europe, having been around the world.

Dr. N. A. Hunt, of Northfield, is in the East doing post-graduate work, and will be absent four months.

Dr. E. P. Quain, of Bismarck, N. D., accompanied by his wife, has gone to Europe, and will return in September.

Dr. E. D. Steele, of Mankato, was married on July 18, at Milwaukee, Wis., to Miss Imra Pringel of the latter city.

The directors of the Deaconess Hospital of Grafton, N. D., have decided to spend $13,000 in the erection of a new building.

Dr. W. E. Truax, of Breckenridge, is home from a trip to England. He increased his fame as a checker player while abroad.

Dr. Ambrose Desmond, a recent graduate of the College of Physicians and Surgeons, of Chicago, has located at Lanesboro.

Drs. McKinnon and Coulton, of Wadena, propose to establish a hospital, and other phycians of the place will co-operate with them.

Plans for building a hospital at Pipestone have matured. Drs. W. A. and A. H. Brown are interested. Mr. E. E. Roddis is the secretary.

Dr. C. W. Wilber, of Sioux Falls, S. D., has moved to White, S. D. Dr. Wilber is a graduate of Rush, and has been practicing a number of years.

Dr. E. W. Benham and Dr. J. E. Merrill, of Amboy, both graduates of the State University, have formed a partnership, and fitted up handsome offices.

Dr. F. W. Schultz, who is a graduate of the University of Maryland, and who has taken a post-graduate course at Johns Hopkins, has located at Waltham.

Dr. E. L. Blackman, who graduated from the State University with the Class of 1901, is now located at Triumph and has been taking a special course in Chicago.

Dr. T. B. Carpenter, Hamline, '01, has purchased the practice of Dr. J. B. Holst, of Lake Benton. Dr. Holst will take an extended course of special study in Chicago.

Dr. J. M. Jensen, a 1902 graduate of the State University, who has been acting for a year as assistant to Dr. Moen, of Windom, has returned to Minneapolis to locate here.

Dr. Frank C. Todd, of Minneapolis, has been appointed an associate editor of the Ophthalmic Record, of Chicago, of which Dr. Carey Wood, the distinguished specialist, is editor.

Dr. Bert Rogers, a son of Dr. C. E. Rogers, of Montevideo, who recently graduated at the Northwestern University of Chicago, has entered into partnership with his father.

It is reported that Dr. A. B. Ancker, who has been county and city physician of St. Paul for over twenty years, will locate in Chicago, and become connected with a large private hospital.

The doctors and druggists of the Park district met in joint session last month at Alexandria, and found the meeting so profitable and pleasant that they voted to hold an annual joint meeting at Alexandria.

Eighty applicants for licenses took the midsummer examination before the Washington State Board of Medical Examiners in session at Spokane last month. Ten questions each upon fourteen subjects were asked.

Dr. S. Marx White has opened an office and laboratory in the Pillsbury building, Minneapolis, and will limit his practice to examination of blood, stomach contents, secretions and excretions, and pathological tissues.

The Yankton District Medical Association was organized at Scotland, S. D., last month. Dr. J. L. Stewart, of Irene, was chosen president, and Dr. W. E. Moore, of Lyndale, was elected secretary. The next meeting will be held this month in August.

There is a strong movement on foot to build a hospital at Garrett. The Commercial Club is interested. The plan is to build an addition to the office building of Dr. F. W. Powers. Dr. Powers is a graduate of Hamline, class of 1902.

Dr. Lawrence Ingram has located at Zumbro Falls. Dr. Ingram is a graduate of the College of Physicians and Surgeons of Keokuk, Iowa, and has had quite an extended practice in public institutions, among them the insane hospital at Jacksonville, Ill.

The second meeting of the Upper Mississippi Valley Medical Association was held last month at Bimidji, when physicians from the counties of Todd, Wadena, Morrison, Crow Wing, Cass, Hubbard, Aitkin, and Itasca met. Papers were read by Drs. McKinnon, Thabes and Fortier.

The Grand Forks (N. D.) Medical Society was organized at Grand Forks, July 8, with the following officers for the ensuing year: President, Dr. J. D. Taylor, Grand Forks; vice-president, Dr. H. H. Matthews, Emerado; secretary, Dr. H. H. Healey, Grand Forks; treasurer, Dr. R. D. Campbell, Grand Forks.

The thirty-fifth annual meeting of the Wabasha County Medical Society was held at Elgin, Thursday, July 9. It was voted to reorganize the society and affiliate with the State Medical Association. A resolution was adopted expressing regret for the loss through death of our former active member, Dr. P. N. Kelly, and conveying sympathy to the family of the deceased.. The president, Dr. J. F. Bond, presented his address on "Commercialism and the Code." Dr. W. F. Wilson read a paper reporting a case of eclampsia. Dr. Witherstine reported a case of subcutaneous emphysema complicating pneumonia. Dr. Bagley reported a case of umbilical abscess following measles. Officers for the ensuing year were elected as follows: President, Dr. W. T. Adams; vice-president, Dr. J. C. Adams; secretary, Dr. W. F. Wilson; treasurer, Dr. E. H. Bagley. Censors, Dr. J. F. Bond, Dr. J. A. Slocumb, Dr. H. T. McGuigan. Delegate, Dr. W. F. Wilson. It was voted to hold the next meeting at Lake City on the first Thursday after the first Monday of July, 1904. A vote of thanks was extended to Dr. W. T. Adams for his generous entertainment of the society.

FOR SALE

I have an extra ophthalmometer, practically new, which I will sell for 50 per cent of its cost price.

Dr. C. H. Kohler, 612 Pillsbury Bldg., Minneapolis.

NORTHWESTERN LANCET

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COMMERCIALISM AND THE CODE*

By J. F. Bond, M. D.

WABASHA, MINN.

So much has been written upon this theme with so much fault-finding and so little in the way of a remedy, that I hesitate to write upon it, and had not our secretary announced my subject in the program several weeks ago, I should certainly have changed my mind.

This subject is really a study of man, the history of his surroundings and development. There will be the practical business man with business ideals on the one hand; the dreamer student, upon the other extreme; and between these an immense horde. The early environment forms the later man, the few years at medical college only intensifying the nature. A thorough literary training with a classical course will ordinarily develop more of a taste for knowledge than for results, so called by the business world. A smattered high school course, with a dash at the business college, other things being equal, will furnish a taste for material things and business methods; and, let me say here, I shall not preach against those who strive for an honest competency. I am only going to frown upon those who prostitute well known means to gain an inglorious end. A man may be cleanly, professionally manly, be successful, acquire money; but he must do so along the lines laid down by the high, noble laws of our code of ethics. I admire the man who is a success and makes money. All physicians who acquire money have not done so through merely developing the acquisition instinct, the money-making habit, the commercial trait. Neither are all of those who possess not this instinct impractical dreamers, cranks on professional etiquette, Amazons in counsel, and weak sisters in practice. We are what God and opportunity and environment made us—business men or professional ones. I believe, too, that many men in our following should attend more closely to the business element of our affairs; but no physician can convince me that ours is a business calling, although I'll confess I know physicians who would have developed into Napoleons of finance had they cast their lot in the business world, and where they would have made a success of life, while they only succeeded in making a lot of money. We all want to succeed in life, and it is the wrought out conception of the term that fills us with pleasure or despair. Success means what our nature and training leads us, each individual of us, to believe. It must mean the doing well of that which nature has assisted us to begin. In the business world the synonym is money; in the world of books, knowledge.

There's a whole lot of ways of looking at the terms and conditions known as success, and it enters largely into the study of this paper. We measure our success by our ideal of a standard. The man of business looks to business methods—considers time as money and reaches a conclusion stated in dollars and cents. In the eyes of the business world a man's success is measured by what his signature is worth at the bank. If physicians would all be kind enough to drop into the modern and vulgar idea of thinking that mere money-getting was all, there would be no necessity for any one to think, much less to write, upon "Commercialism and the Code." Our schools, instead of raising the requirements for entrance and graduation, could lower them a year or two, and introduce the easily-mastered business-college course. The study of uncertain things could be abridged, less time be devoted to the microscope and laboratory, and more to how best to keep your life account on the right side of the page; to know less knowledge, but more men and their business methods. But the commercial idea never entered into plans of higher education or elevated the standard of a medical or any other college. The successful man of business has seen fit to endow universities, and ofttimes with this money has it been made possible to perfect arrangements for a deeper training in college life, his endowment proclaiming his failing weakness; the fact that his success in money-getting had not compensated him for the things in knowledge he had unalterably lost, the finish of the school, the refining influence of study and books, and all such kindred knowledge, demonstrating again to his own satisfaction and ours that "Providence has the only corner on compensation." So much for the success realized and known through and by money-getting.

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*Read before the Wabasha County Medical Society, July 9, 1903.

Now for some other way—some other kind of success.

The successful physician is one whose attainments are recognized by the profession, and whose work stands well with the laity. So many men are created with an unappeaseable thirst for knowledge; there are so many things opened up to the man of this inquiring mind, he starts to read upon the simplest thing, and is lead to intense study upon a thousand. Knowledge is an ever-widening field and time is so fleeting; there are so many treasures in science and literature; and, besides all this, the depths too of lore, ancient and modern in our own profession. How soon the student begins to dig into the past; with what feelings he finds something presumably original and modern, that has been resurrected from past ages, honestly or not, yet in all its devious windings, word for word, thought for thought!

Such a man, with such a nature and thirst, loses sight of the dollar, and often cares only for it for its purchasing power—for the purpose of buying a book or picture or appliance or of studying some new to him language or thing. Men who have made the discoveries with the microscope, the scalpel and in the laboratory, while successful in the mind of the student-body of the world, did not meet the requirements of the business majority who think money must be the chief end and aim. These pioneers were not business men according to present ideals even if they succeeded in making business for men—men who utilized their discoveries and put them upon a money-making basis. On this line let us recall that for many years it has been a profitable business in dollars for some American medical men to utilize their summer findings in German, French, and Austrian wanderings, among the hospitals and laboratories, without giving proper credit to the originator or even modest use of the quotation marks. Koch, Virchow, and Pasteur are selected at random as types of men we all call successful.

Does the money thought enter even? Hardly. Koch never made, nor does he now make, out of his profession and professorship, $4,000 a year, with the pension of the Emperor included. Virchow was always a poverty-stricken failure from a business man's point of view, yet how rich in all ways in the student's vision, even in his overlooked and half-forgotten writings while physician to Schliemann as they worked together in the excavation of the ruins of ancient Troy. Pasteur lived and died poor in material things, but worth a king's ransom in the things which do not perish and money can never buy. These men were successful, and they were students always. The student is ever the originator; the business man, always the profiter. The man who says or thinks "this case is worth a hundred dollars to me," has not the time or inclination to delve into anything—only the study of that case, under these bearings, never losing sight of the means to' get that hundred dollars. Once upon a time, in Chicago, there lived a man who through economy, or a wife, I forget which, had saved several hundred dollars. (He was not a physician.) He concluded to pay a debt which had long hung over their home. On his way to wipe out the hateful incumbrance, he met a man who had devoted the years of an ordinary lifetime as a naturalist, and in making a collection of butterflies. Necessity compelled him to sell them, and our friend, recognizing the success of a life-work, and feeling for its necessities, bought those butterflies, though his own fad was poetry and first editions. He did not succeed in dollars; he was not a business man. Yet the measure of his success is safe in the keeping of loving women who have felt the trembling joys of motherhood, of manly men whose memories are saddened by baby voices long forever stilled. Could I reconcile these men of many ideas with our man of one idea (our commercial friend), this paper would be in vain. We can not. The meaning of success is not written in dollars, neither can it be defined by you or me. Our ideas are not broad enough to say truly whether the possible dreamer has failed. He had his books, his fads; he missed the money, true, but then he never hunted for it, and success can be attained along money lines easier than by any other. I have yet to see the man of money, unless he inherited it, who possessed a deep and varied knowledge. He loses too many things to say nothing of time lost at school.

But enough of types. Now, place your commercial man and any of these others in the practice of medicine, and write a code of ethics founded on the golden rule for their mutual guidance. One bulls at the first proposition; he would not recognize or understand these things if they were printed in heavy caps and hung across the public highway. For the other, he falls into its observance from very naturalness of self. It was not necessary for his adherence that it be written at all. There are some men, anyway, who intuitively know the ear-marks of good breeding,—courtesy, manhood, and all the finer feelings and things which go to make up refinement, culture and gentleness; or they soon acquire them. You can not by any conceivable possibility even insinuate these elementaries into the nature of the commercial factor. Our commercial brother's whole life and idea is concentrated into one thing,—*money;* how to attract it; how to possess it; how to absorb more. He is necessarily shallow in knowledge. What he knows is always on display and dressed in grandiose form. He utilizes all his forces. He nurses all his accomplishments, and puts them on a paying basis. His office display is catchy, not to the eye of a true physician, but attractively catchy in the eyes of a layman. He affects oddities and things noticeable in dress. With him modesty is a lost term. He is audacious, and believes in himself. He pats little children on the head in the presence of their mothers, and passes them by forgotten should he meet them alone. His carriage team and driver attract attention or comment. He keeps his name or person or equipage in the lime-light of publicity. It pays—it means success. He condescendingly patronizes or derides or altogether despises his competitors. He resorts to every subterfuge and stops at nothing to get cases.

Can you conform or reform such a nature into compliance with the code of ethics? His friends are those whom he uses or who employ him. He can not indulge a feeling of pleasure for any one of similar tastes or feelings because such a one would be a rival in the vulgar game. He tells his friends that his unpopularity among his professional brothers is from sheer envy, and the people usually believe it. His life is a standing, living advertisement. He expects and demands of his patrons cash or unending praise of his abilities always, and in all places, particularly to those about to employ a physician. Will any collection of rules on how to be decent affect or reclaim such as these. He is past-master in the gentle art of holding dissatisfied patients by sending in the comforters who unendingly praise his skill and recite his success in cases similar by the score. His motto is, "If you can't pay, holler." He also knows when to send to the other physician's dissatisfied cases. He invariably knows what his competitors are doing. His tab is very complete on these cases. When called in counsel in hopeless cases, he looks wise, shakes his head, and says "too late," or whispers disparaging words into troubled, anxious ears, or sends his comforters, or steals the case—if there is any thing in it. Anyway, he gains prestige and dollars if he can, and when he can, at the expense of his fellows. Another's faults and frailties are pleasant stepping-stones. He is superlatively, pompously proud of his reputation. I mean the one he thinks he has. The newspaper has copious mention of his cases, written in the third person, of course, yet written by himself. The reporter finds in him a willing vessel. He would sooner think of suiciding than tell the editor not to mention his name, all cases to the contrary, notwithstanding. His cases are invariably *bad, bad* cases from the very first.

If or when they recover they were rescued. If they die he was not called soon or often enough. Thus he gets them, coming or going, and all's fish. People unfortunate enough to fracture bones, suddenly become possessors of *bad* fractures "both bones broke." Ribs pay: if they are not broken, then they are cracked; the price is the same.

The principle underlying the code is honesty. Can it by any possibility reach this class? Sometimes men of this class believe that surgery makes a reputation easier and quicker, and gives more vent to commercial proclivities. So our friend possibly takes to it and ever after operates to relieve desperate conditions. His work is "delicate," "skillful," "another life saved." I wonder if any one doubts to whom that little clause relative to the laity and operations was written? He invites laymen to operations because no better or cheaper method of advertising is known. Demonstrations of surgical knowledge and skill before folks who don't know is neither difficult nor nerve-tearing. A few anatomical terms sonorously turned out in unison with a spurt of blood are fetching, the results golden, "wonderful display of working knowledge," "vivid picture of perfect technique." Verily, a small show under an oceanly expanse of canvas! The ancient and honorable sons of Hironomous initiate him into their secret rites; the taste is toothsome; he becomes a joiner; he devotes $3 to $5 worth of time to a dollar examination for insurance, and plays wet-nurse to the entire body for $1.00 per head for 365 days. Money in it? Oh, no! but he keeps his competitor from making ten times that much in a certain case, and has excellent chances to get the family practice. And the churches? Religiously inclined ailing people have always been a feast for such grafters. He subscribes to churches, pays the preacher or allies himself with the most numerous and popular creed. His whole thought at all times is to do the things and say the things, or have them said, which will bring in the dollars. This bull is now in our china-shop, and our code tells him to go into ravishment over our delicately tinted porcelain. If one happens to say of his competitor: "Dr. So and So is quite a student," or any such remark, and he can not qualify or question or deny it he will drawl out impressively: "Yes, but he does not apply it; fails to utilize it; poor diagnostician; bad impression in sick room; leaves too soon; or stays too long; talks too much or says too little. Great student, yes, too bad, too bad," and so he damns him patronizingly, yet effectively. Our code of ethics fortunately, for him, fails to encourage manslaughter, and omits the persuasive possibilities of a good club. It was written by good-hearted and too forgiving men, possibly by those same men whom our commercial cuckoo would dub as impractical dreamers. They ingenuously thought they had him gagged and bound because they had threatened to advertise him—to make him a martyr and an object of compassion among the laity. "If you do not be good now we will punish you by doing the things you enjoy best." Then they placidly sit back to watch the halo form and see the sprouting of feathers. And it never phazed him. If he read it he forget it, or else remembered it and became more contemptible still. I want to feel he has read it and not understanding or appreciating the finer feelings which prompt chivalrous, manly men, he feels it could never be meant for him—one of such superior qualifications could do no wrong, nor need a code. He was only after the dollar, and if he got it how could any one venture to question or criticize? No; he generally does not even know that he is a cad and an unprofessional ruffian. His ignorance and egoism are so sublime that he feels he is a shining light in a noble calling.

I do not wish to appear to cling to an extreme type and blend the genus of commercialism and quackery into a composite, grafting whole. And some men have to adopt some of these failings to eke out a living. "Dr. A does so and so, and so must I to exist." Palliation probably but not an excuse forever. Some of us are temporarily commercial, but stop short of running our pictures and inspired third person articles in the public prints. Circumstances and want drive some into bad ways, but as long as a man knows his is a questionable action, there is hope for him. The man who cold-bloodedly goes in for the commercial idea is more dangerous than the one who is in through merely following his lights (commercial training, etc.).

Not long since I took a patient to one of these commercial fellows, a man who enjoys the reputation of being a skillful specialist, and his manner, his effort to impress us, particularly the patient, whom he finally got to talk with alone, would have excited the envy of the gentlemen who advertise to cure the indiscretions of youth. As it was my patient was saved $500, and I took him to another man who was a better judge of human nature, to say the least. The voice of the business world proclaims our commercial friend a success because he made money. He could have my congratulations and God-speed had it all been done in the line of legitimate trade, but never in the practice of medicine and surgery where success includes a few other things.

And now for the remedy—the punishment to fit the crime of this vulgar breed who shine among the laity as bright particular stars. Bar them from our county, state and national societies? We can. We could brand them with all the markings honorable men and educated physicians despise and make their caste a byword and a curse among men of breeding or culture or even common decency. But this would not put an end to their grafting. They have none of the finer feelings which sway mortals. We can not hurt or even dent their particular kind of feelings. They were not built upon ideal plans and specifications. Reproof or censure by reputable men can never effectually reach these "hungry sons of Adam who need the money." Such means would only succeed in convincing the rabble that we were envious or jealous, and were persecuting a useful man, a successful physician and persecution we know establishes anything or everything or nothing on a lasting foundation. Carlyle says: "In the huge mass of evil, as it rolls and swells, there is ever some good working imprisoned, working towards deliverance and triumph," and the good I think of to remedy this evil effectively and forever is higher education, deeper research recognized by the increasing requirements of our medical colleges. The lengthening of the years requisite for a degree will cool this commercial ardor. The man with the commercial instinct will find opportunity for his dollar-chasing proclivity in the thousand and one lines of business, and give the calling of medicine a wide berth, thus being successful in the only way his reason comprehends.

Those who love the sound of the tinkling gold or the velvety feel of the long green, can enter the active field of commerce through countless gates, and not lose so much valuable time as will soon be necessary to enter our calling or acquire a degree. Short terms and low fees and lower educational requirements have made this commercial fellow troublesomely prominent. Compel him to study; force him to dig among manly thoughts, actions, and methods of worthy men. After graduation from a college with an elaborate and lengthy curriculum of study, let him parade his mental acquirements, his medical attainments, not before a gullable public, but before a cold-blooded state examining board of medical men whose standard of fitness is an ever-widening, ever-increasing one of higher knowledge, thoroughly acquired. Make it more and more difficult to practice the art of healing. It is only justice to the calling that this be done. Our commercial incubus will then lose his one idea of what spells success, and may become imbued with the humanizing influences necessary to a follower of Esculapius.

Our present accumulation must be endured I suppose. No code or compilation of laws will make an individual manly who is otherwise inclined. A code of ethics written by and for scholars, students, and men of science will ever be useless as a rule and guide in a chamber of commerce. Gentlemen, or better, manly men, require no rules to follow or mentor to teach them how to be decent. No book of forms or manners or code or law is written for them. Unwritten always are their laws, or, if printed, ever and impressed it was in babyhood by mother's glowing touch.

I would as soon try to explain to a Digger Indian the nebular theory or expect a rational response to a dissertation on the perseverance of the saints as to expect wholesome results from a code of medical ethics conformable to the commercial idea. The practice of medicine and surgery is not a business. In our profession success means many things. Apparent failure may be glorious success. Nature and environment form the heterogeneous mass of incompatibles known as men of medicine. No code can unite them. In the meanwhile this monstrous barbarity of commercialism is with us, and will stay for a time. Not many of him, but one now and then—always enough to annoy,—and for the present evil I know no remedy until my millenium comes.

ENTERECTOMY FOR GANGRENE FROM STRANGULATED HERNIA*

By G. R. Curran, B. S., M. D.

MANKATO. MINN.

The Sanscrit Veda, Celsus, and Galen—all mention this subject, and it would be interesting and profitable to follow the art of making intestinal anastomosing from that time to the present, but we will confine our limited time to mentioning a few of the first principles of intestinal union. This is of interest to both the surgeon and the internist, for we all are called upon at some stage of this trouble to give relief to the sufferer from strangulated hernia. Practical tests and experience have limited the methods of doing intestinal anastomosis to two: with Murphy's button and with the suture. The button has the advantage of being quicker to apply, and it can be placed where the suture can not be used; for, in suturing, the intestines should be brought outside the abdominal cavity, but the button does not always make a hermetically sealed joint, and it does not always come away in nine days, and it has been known to become impacted after properly performing its duty, causing complete obstruction. In addition, a great many buttons on the market are worthless. Surgeons are using the suture for this work more and more. Silk thread can be obtained in an emergency in every house, and boiling renders it ready for use. Silk and celluloid are the materials generally used for sutures, but there is no doubt but what in time catgut will invade this last stronghold left to inabsorbable sutures. The glover's continuous stitch is the simplest, makes the closest union, and is the quickest to apply. The Connell has the advantage of leaving all the knots within the lumen, but reports are beginning to come in of stenosis resulting from this form of suturing. One surgeon reports having to do two such operations over within a year on account of obstruction, and he found that it had left such a large diaphram that stenosis resulted. We should not condemn the Connell suture without an impartial hearing, but Kocher, Roux, Kuemmel, and others have been getting good results with the glover's stitch for years.

Having chosen the method of making a union that we consider the best, we must master its technique thoroughly. The practice of making an anastomosis on the intestines of living or dead animals is absolutely necessary. If we can make a water and air tight union on the dead intestine, it will surely be so on the living intestine, taking care in the latter case not to draw your sutures quite so tight. After using various materials, we found that the stomach and the intestines of the calf made the best substitutes for the human stomach and intestines.

How much to dissect is of vital moment. It has been proven by experiments on animals that one-third of the intestines can be lost without impairing the nutrition of the animal. Arthur E. Barker, writing on this subject in the London Lancet, says that the weakest point in gangrene of the bowels following strangulated hernia is from four to five feet above the point of constriction. It is necessary that the union take place between healthy tissues, and one should not hesitate to sacrifice a few feet of intestine, if necessary, in order to obtain it. The statement laid down by Kocher that the blood-supply at the point of union should be both seen and felt should not be lost sight of. By making an oblique cut from the last ligature of the mesentery, through both mesentery and intestine, making an acute angle with a line drawn through the long axis of the intestine, one avoids tissue that may have lost its blood-supply.

That one should speak of asepsis seems hardly necessary, but experience shows that it is. The gauzes and tampons should be changed as soon as the lumen of the gut has been closed, in order to avoid any possible infection that might have taken place by the escape of the intestinal contents.

The last point to be mentioned is that if the intestines are much distended and the obstruction has been of long standing the gas and fecal matter must be emptied before union is made.

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*Read before the Southern Minnesota Medical Society, July 9, 1903.

Ptomains have been forming and putrefactive changes have been taking place which in their absorption are a menace to the life of the patient. Sir Frederick Treves regards the shock at this time to be mainly due to this auto-infection. By commencing to dissect from below and before the upper end has been severed, one has a hose through which to discharge this material without contaminating the field, patient, or table.

I have only the following case to relate:

Dr. C. F. Warner while going by the farm of Mr. P. McTighe on the afternoon of June 14, 1903, was called in with the statement, "that they were thinking of sending for him." He found Mrs. M., aged 63, with a strangulated femoral hernia. She had not been feeling quite right for several days, and for two days there had been vomiting when she had taken food in her stomach. Finding the hernia irreducible, he sent for me. We gave an anesthetic, and tried for a few moments only to reduce it. Finding an operation necessary, she was at once brought to St. Joseph's Hospital, where, at eleven o'clock that night, the operation was performed. There were no evidences of shock, and so we were surprised to find, when the sack was opened, a quantity of dark bloody fluid, the intestines gangrenous, and the intestinal walls partially ruptured in several places. The constriction causing the trouble was severed, and the intestines covered with gauze compresses wrung out of hot salt solution for ten minutes in the hope that a part of the loop would regain its circulation, but to no effect. We then resected. Two rows of sutures were used, the first row embracing all the layers of the intestines in which celluloid thread was used, and the next row contained only the serosa of catgut. The abdomen was closed without drainage with a small wick leading down to the neck of the sack. Her recovery was uninterrupted, she having no vomiting or pain after the operation. The sister who preserved the specimen for me measured it and found it to be about a yard long.

REPORT OF A CASE OF ECLAMPSIA

The Convulsions Occurring in the Seventh Month of Pregnancy, and Labor at the End of the Eighth Month, with Recovery of the Patient

By Wm. F. Wilson, M. D.

LAKE CITY, MINN.

The following case presents several interesting features, which seem to make it worthy of being reported. The patient was Mrs. P——, a primipara, aged 29, a cultivated American woman. She was married November 23, 1901, and the date of her latest menstruation was February 14, 1902. The family history is good; previous personal history, good, excepting malnutrition for a few weeks in early childhood. A physician was first consulted in this pregnancy on September 10, 1902, for headache and diarrhea. That evening the patient had a convulsion. She had five eclamptic seizures between 4 and 11 p. m. She then went until September 14 without any spasms, but had a convulsion on that date at 9 a. m., and on September 15 at 3 and 6:30 a. m. and 7 p. m., making nine convulsions in all.

The patient for a few weeks previous to this had noticed edema of the face, hands and feet, and had complained somewhat of headache, dizziness, and indigestion; but no physician had been consulted until I was called, about noon on September 10th. Examination of the patient revealed the following: A tall, well proportioned, rather slender woman; weight, 125 lbs.; pulse, 72; temperature, 101°; tongue, heavily coated; breath, odorous; noticeable edema of extremities; and congestion of conjunctivæ. The fundus of the uterus was above the umbilicus, in the median line; external pelvic diameters, between spines, 26 cm.; between crests, 29 cm.; obliques, 20½ cm.; external conjugate, 21 cm. The position of child was occipito—right—posterior. The

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fetal heart sounds were heard in the right lower quadrant, 140 to the minute. The uterus was not distended, and there were no indications of undue intra-abdominal tension.

As soon as possible a specimen of *urine* was obtained and examined with the following findings: Quantity in 24 hrs., 19 ozs.; reaction, acid; sp. gr., 1.025; total solids excreted in 24 hrs., 522 grains; and albumen was present. When a specimen was boiled and acid added, three-fifths by bulk was precipitated. A microscopical examination showed presence of epithelial cells and granular casts.

Treatment.—I would like to acknowledge having received valuable counsel and aid from Dr. J. C. Adams and Dr. E. H. Bayley, of this city, in the management of this case.

The treatment, directed primarily toward alleviation of the convulsive attacks, was as follows: The patient was given a hot mustard and water-pack, followed by artificial heat maintained under the bed clothes to induce free perspiration; she was encouraged to drink freely of hot water, and was allowed milk. A calomel purge was administered; and a dose composed of chloral, gr. xv, potass. brom., gr., xxx, and Norwood's tr. verat. vir., m. v, was given every 2 to 4 hours. The convulsions continued at intervals of about one and one-half hours until the patient had suffered five, when a hypodermic of morphine, ¼ gr., and atropine, 1-150 gr., was injected, after which the woman sank into a deep sleep for several hours and had no more spasms for nearly three days; then she had four more at intervals of several hours, and received the hypo. of morph. and atrop. after each one.

On September 15th the patient was anesthetized with chloroform, and, assisted by Dr. Bayley, I gave her one quart of normal salt solution by hypodermoclysis. She had one more convulsion nine hours after this infusion.

The general treatment, other than given above, was as follows: The patient was given Waukesha water to drink as freely as possible; an absolute milk diet was enforced; she was given a hot bath night and morning, and artificial heat was maintained under the bed covers; the bowels were kept moving three to five times daily, usually by cascara; a hot normal-salt enema was given night and morning; five drops fl. ex. apocynum was added to each dose of the chloral-bromide-veratrum compound; and the patient was put on the cream of tartar mixture as recommended by Osler in the treatment of acute nephritis.

During this week, in which the patient had the convulsions, her temperature was usually normal; never much above; pulse ranged from 60 to 80; respiration 18 to 20; the fetal heart sounds, from 140 to 160; and the urine averaged about 40 ozs. in 24 hours, with a sp. gr. of 1.010; total solids, 440 grs.; albumen, one-half by bulk after boiling specimen.

After this week, and soon after the convulsions ceased, the patient's condition improved somewhat, and the treatment was modified a little. The sedative mixture was omitted, excepting that 30 grs. of bromide of soda was added to each saline enema, and the apocynum was given by itself, 5 gtt. fl. ex. every 4 hrs. Buttermilk and unfermented grape-juice were given, and the patient sat up in bed a few minutes each day.

From this time on until labor took place, which was five weeks after the last convulsion, the patient's condition continued gradually to improve, and the treatment was correspondingly further modified. The urine always contained albumen, at least two-fifths by bulk when boiled; the quantity in 24 hrs. reached as high as 46 ozs. with 506 grains solids eliminated. The patient's tongue got clean, and her breath sweet; temperature remained normal; and pulse between 70 and 80. The fetal heart-beats kept about 144 to the minute. The position of the child varied somewhat, but was R. O. P. again before labor.

The Waukesha water was continued until the patient got well. The cream of tartar mixture was exhibited until after delivery. Starches and fruits were gradually added to the dietary, after milk had been the only food for two weeks. The apocynum was omitted, and the hot bath and salt and bromide enema were given only once daily. The bowels were moved freely every day, and the skin kept warm and usually moist. The woman sat up in a chair from two to six hours daily.

On October 17th the patient vomited, had a slight chill, and felt indisposed. An examination was made; fetal movements were felt, and heart-sounds heard, but both were faint. On October 19th they were not perceptible. On this date, at 8:30 p. m., the membranes ruptured spontaneously, and liquor amnii escaped. Labor pains came on at 9:30 p. m., and the following morning at 5:30 the child was born without any interference, excepting that chloroform was administered to the obstetrical degree during the last hour of pains. There were no signs of impending convulsions. The child was still-born. There were no signs of life and efforts at resuscitation were unavailing. One edge of the placenta was torn a little, the membranes had ruptured at that point, and the cord was inserted near the same place. The baby was a boy, weighed 3¾ lb. and was 17½ inches long. The date of expectation in this case was November 21st, and accouchement occurred October 20th.

The puerperium was uneventful. Right after parturition the quantity of urine rapidly increased so that the patient passed as much as 104 ozs. in 24 hrs., and the amount of albumen gradually diminished. Treatment was continued about the same as before labor (excepting that Basham's mixt. ℥ss., t. i. d., was substituted for the cream of tartar preparation), until about the middle of June, 1903, at which time the albumen disappeared from the urine, and the patient seemed to be as well as ever.

The features of this case that I wish to call especial attention to are these:

1. The time at which eclampsia occurred, the patient being about six and one-half months pregnant.
2. The rate and condition of the pulse. Just before one convulsion, by actual count, the pulse rate was 61 to the minute, and immediately preceding another it was 64. The slowness was not due to medicine, and the pulse was always of low tension.
3. The fact that morphine given hypodermatically seemed to control the convulsions better than any other remedy used.
4. The length of time it took, after delivery, for the albumen to disappear from the urine—eight months.

TWO OTHER CASES

I would like to report, very briefly, in this connection, two other cases that occurred in my practice at about the same time as the case given above: one a case of eclampsia during labor, and the other a case of albumenuria of pregnancy.

On May 10, 1902, I was called into the country to attend Mrs. B——, a primipara, aged 18; in labor at term. I had not seen the patient before. She had one convulsion before I arrived, and one immediately after. I quickly narcotized her with chloroform, gave ten minims Norwood's tr. verat. vir., hypodermatically, and made an examination. Finding the conditions favorable for immediate delivery, I applied to forceps, and soon extracted a living, healthy, well- developed female child. The mother had no more eclampsia. Testing the urine later I found it contained plenty of albumen. The woman was given some treatment, consisting of restricted diet and diuretics, and about twelve weeks after confinement the urine was found normal; and mother and child, to all appearances perfectly well.

About the first of August, 1902, I was retained to attend Mrs. S——, in confinement. The date of expectation was October 10. A specimen of urine examined when engaged to attend the case, was all right. About the middle of September the woman complained of dizziness, spots floating before the eyes, headache, and edema of the face and feet. Investigation showed she was passing three pints of urine in 24 hrs., sp. gr., 1.009; total solids eliminated in 24 hrs., 475 grs.; albumen present, one-fifth by bulk after boiling. The patient was put upon treatment consisting of Waukesha water to drink, cream of tartar mixture each day, and salts every morning; the diet was restricted to milk, starches, and fruits, and the woman was instructed to keep her body warm. Her condition improved somewhat. Her accouchement took place September 27, two weeks before the expected time. A living, healthy female child, weighing 5¼ lb., was born naturally, after a labor of eighteen hours. The mother had no indications of spasms. Treatment was continued for about six weeks after confinement, when the urine became normal, the woman seemed well in every way, and the child was thriving, so then the case was discharged.

I believe in this last case eclampsia might have occurred had not treatment been promptly instituted upon the first appearance of suggestive symptoms,—and that in the first case, convulsions might have been prevented had the patient applied to a physician and received appropriate treatment upon the earliest sign of trouble.

ASEPSIS OF THE CORD*

By Harry Morell, M. D.

LITCHFIELD, MINN.

In addition to the aseptic measures which have been taken with the mother in labor, and to conform with modern methods, attention should be given to the umbilical region ot the new-born infant. In private practice, in the majority of cases the proper care of the cord is neglected. Dickenson[1] says "there is a weak spot in obstetric antisepsis in the way the cord is dressed ordinarily." It is surprising that there are not more cases of infection of the umbilical wound, when we consider the haphazard manner it is attended to generally in every-day practice.

The cause of acute pyogenic diseases of the new-born, as omphalitis, and suppuration and abscess, inflammation of the umbilical vessels, peritonitis, erysipelas, etc., are due mostly to infection through the umbilical wound, which often becomes a starting-point of disease. The microorganisms which cause the suppurating processes are mainly the staphylococcus pyogenes aureus and the stroptococcus. Holt maintains that probably four-fifths of the cases arise from this cause. Other pyogenic organisms may gain entrance through the cord wound, causing intestinal and pulmonary diseases.

In the proceedings of the American Pediatric Society[3], May 13, 1903, Dr. S. M. Hamill described six cases which had been studied: "In each instance the death of the infant had been due to extensive bacterial invasion. Streptococci, staphylococci, and colon bacilli had been found in the various organs. These germs had been found in the dust of the rooms in which the infants had been confined, in the bedding, in various toilet articles, in the mothers' clothes and in the bath water of the infants." It is quite plain that probably these infants were infected through the umbilicus, and it is reasonable to suppose that an open wound would offer a better avenue for infection than through the unbroken skin, mouth, or alimentary canal.

The following is a brief review of the various methods of dealing with the cord, showing that it is not an unimportant subject.

E. H. Bartley[4]: "The stump of the cord after being cleaned and dried * * * should be wrapped in absorbent cotton or antiseptic gauze * *.* mummification of the stump is the chief object of the navel dressing * * * application of oil or powder is omitted, since these agents tend to prevent a rapid desiccation. The stump when dressed is laid flat on the abdomen with the cut surface directed to the left and kept in place by an ordinary belly-band. The cord usually separates in from four to seven days."

Jewett[4]: "The utmost aseptic care must be observed in ligating and dividing the cord. Fatal infection of the umbilical vessels may result from the neglect of proper cleanliness. Ligature and scissors, as well as the hands and everything that comes in contact with the umbilical stump, must be surgically clean. * * *"

Garrigues[5]: "In private practice all I personally do for the navel-cord, after having tied it, is to put a piece of absorbent cotton over it, which comes off in the next bath * * * * but since in cutting the cord we leave a wound * * * as this is the chief source of disease in the new-born child, it is rational to dress it antiseptically. In doing so we should avoid fatty substances and use only dry powders which contribute to the mummification of the stump."

Marx[6]: "As soon as the fetus is born, the cord is tied in a fashion, original, I think, with me. Three ligatures are used, two at the usual site. The cord is now carefully pulled upon until it is taut, and at the point of exit at the vulva another ligature is placed. Its object is thus explained: The placenta can not move without pushing the cord before it, so that the position of the third ligature tells me exactly where the placenta is. If the ligature is still at the vulva, the placenta has not moved. If three or four inches from the vulva, the placenta must be in the vagina. * * *"

Grandin and Jarman[7]: "The cord should now be dressed. This matter is usually left to the nurse, but it falls within the province of the physician, since infection at the site of the umbilicus is a frequent cause of sepsis of the new-born. We are dealing with a wounded surface, and the attention requisite is similar to that which any wounded surface demands; that is to say asepsis is a *sine qua non.* A pledget of sterile absorbent cotton or of gauze is wound around the cord, and is left in place until the cord drops varying from the seventh to the tenth day. During this interval the child should not receive a full bath, since our aim is to have the cord undergo dry gangrene after an aseptic fashion, and this is interfered with if the cord is wetted, aside from the danger of infection with each manipulation."

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*Read before the Crow River Medical Society, April 8, 1903.

By strict attention to details the danger of infection through the cord will be reduced to a minimum. The manner in which the umbilical region is dressed will be followed by individual preference, but the materials and everything used must be absolutely aseptic. The practitioner should always have prepared in his outfit a complete cord dressing, which may consist of tapes, gauze and lint or absorbent cotton. A number of these packages could be made up complete and sterilized in the office, and would always be ready for use. I have suggested to Messrs. J. Ellwood Lee Co. such a package for the convenience of the obstretrician. It contains everything requisite for the proper performance of dressing the cord, as silk tape, four strands in a breakable tube, lint squares, bandages, and safety-pins all enclosed in a modern aseptic package.

Complete Aseptic Umbilical Cord Dressing

The thought of having this dressing put on the market was mainly due to the fact that manufacturers of aseptic dressings were selling umbilical tapes in envelops and spools, which to my mind were wholly unnecessary unless precautions were taken to guard the wound, as it is there infection arises, and not from the cord where the ligature is tied.

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PNEUMONIA*

By Victor I. Miller, M. D.

WESTBROOK, MINN.

During the past few years nothing of much moment has been discovered in regard to pneumonia. From time to time treatments said to be specific have been brought forth only to prove unsatisfactory after a trial.

According to current reports the death-rate of pneumonia is greater than that of any other single disease, although according to the last census the death-rate of consumption was greater. Neither is the death-rate in pneumonia decreasing in percentage, as compared with former years. It is still one of the most baffling diseases that physicians are called upon to meet.

Briefly in regard to the etiology: Cold seems to be the greatest predisposing factor, as it lowers the resistance of the bronchial and pulmonary tissues, and thus favors the invasion of bacteria. Usually, pneumonia follows exposure, and is ushered in with a chill. This gives rise to the belief amongst the laity that "taking cold" is the true cause.

Some authorities claim that the old and debilitated are more susceptible, while others claim the reverse. My personal experience has been too limited for me to draw conclusions in this respect.

When called to see a patient you usually find him with flushed and anxious face, high bounding pulse, dyspnea, and complaining of a "catching pain" with every respiratory movement. Patients usually give a history of having had a cold for a few days previous. It is the chill and pain that lead them to suspect something serious, and to call in a physician.

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*Read before the Southwestern Minnesota Medical Society, July 9, 1903.

In the country we rarely see our cases in the first stage, that of engorgement, as this lasts only about twenty-four hours. It is at the beginning of consolidation that the pain is most pronounced. As the consolidation advances the pain decreases, but the fever and dyspnea progress.

It is not my intention to dwell upon the etiology or diagnosis, because we are all familiar with the picture, and nothing new of interest can be written. What I wish to call your attention to is the treatment that has proved the most successful in my practice.

Hobart A. Hare, in an article on pneumonia, divides the cases into three classes. 1st. Those that die, do what we will; 2d, those that get well almost without help; 3d, those that need all the help possible in order to survive. It is to the latter class that all our efforts must be directed.

We are all aware that there is no routine treatment. We must watch our patients at all times, and give medication only when needed. Our object should be to maintain the vital forces, and prevent exhaustion.

The first thing to do is to consider the surroundings of your patient. He should be placed in a cheerful and well ventilated room. Fresh air and sunlight are beneficial agents. The temperature of the room should be kept as near 70° F. as possible. The food should be simple and easily digestible, such as milk, raw or soft-boiled eggs, and broths. Farinaceous food should be prohibited, as it usually causes flatulence. Cooling drinks are refreshing, and may be given at short intervals. The bed-clothing should be warm and light. The pillows should be placed so that they will not throw the patient's head forward toward the chest, as this will increase the dyspnea.

The second step in our treatment is to make our patient as free from pain as possible. As the pain in the chest is usually the most distressing symptom, we should endeavor to allay it. The ice-jacket, which has been so much in vogue, is cumbersome and decidedly disagreeable, because, no matter how careful we may be, it is sure to wet the bed-clothing. The pneumonia-jacket made of cotton-batting and oiled silk possesses no merit. Dry cold applications are far more convenient and beneficial. Have your patient wear only a common flannel night-gown, opening in front as low as the umbilicus. This affords a means of making your examinations and of applying local measures without discommoding your patient. For the relief of pain and to soothe the over-worked heart nothing is so effective as dry cold applications. The best method of making these applications is to use a rubber coil, and syphon ice-water through it. These coils are light and pliable, and can be made to fit well to the patient's chest. To control the fever, give cold sponges.

The next step in our treatment is to get the patient's bowels to working well. Calomel, from 1-10 to 1-6 of a grain, combined with sodium bicarbonate, given every half hour until the bowels respond properly, seems to be the best remedy. You must insist upon the use of a bed-pan, as any undue exertion upon the part of the patient throws more strain upon the already over-worked heart.

The drug that has proved the remedy par excellence in my practice is creosote. The better to illustrate its effects I will give a brief history of a few cases.

Case 1.—Mrs. S——, aged 58, poorly nourished, had been in poor health for a number of years, due to indigestion. I was called to see her August 2d of last year. I found her suffering from pneumonia. She was first taken sick the evening of July 31st. There was marked consolidation in the lower lobe of the right lung; expectoration, scanty; temperature, 103.5°; respiration, 35.

I gave calomel in broken doses, and wrote a prescription for beech-wood creosote, to be given in 5 drop doses in milk every four hours, instructing them to decrease the dose, and give at shorter intervals, if it interfered with the stomach. The next morning when I called they had cut the amount of creosote to 3 drops given every three hours. The stomach did not take kindly to it, and nourishment was not well borne. Otherwise the symptoms were about the same as on the previous day. The creosote was then ordered to be given in 1 drop doses every hour.

At this visit the cold-water coil was applied. The following morning found the patient much improved. She had rested well during the night, and had taken considerable nourishment. The consolidation was not so marked, and expectoration was more profuse. The temperature was 97.8°; pulse, 80; respiration, 22. The cold-water coil was removed. Medication with creosote was continued, given in brandy every two hours. The brandy was substituted for milk to get more active stimulation. The following day found the patient much improved in every way. Respiration was free and easy, and the consolidation was less marked, but the temperature was still subnormal. She was now placed upon a mixture of ammonium chloride. Creosote was ordered to be given in 2 drop doses, in brandy, every six hours. Two days later creosote was discontinued, and the patient was given a tonic mixture.

Case 2.—Mr. W.——, aged 19; occupation, farmer; previous health, always good. He was taken sick February 14th, and was first visited February 17th, when he was found to be suffering from pneumonia. The lower lobe of the right lung was affected; temperature, 104°; pulse, 125; respiration, 28; expectoration, scanty; pain upon respiration, very distressing. The cold-water coil was applied, and creosote carbonate in 3 drop doses was given in milk every three hours. The next day the temperature was 102.5°; pulse, 112; respiration, 28. He complained of very little pain. The same treatment was continued, and the next morning found the patient much improved. Temperature, 99.2°; respiration, 24; pulse, 90; expectoration, free. Upon the following day the temperature dropped to normal; pulse, 82; respiration, 20. A mixture of ammonium chloride was prescribed, and all other treatment discontinued. Recovery was rapid and uninterrupted.

Case 3 & 4.—Mrs. K——, aged 39, and son, aged 6. My first visit was made March 29th of the present year. Found pneumonia in both cases. The little boy had been sick five days. The lower right lobe of the lung was affected. The temperature was 103.8°; respiration, 45; pulse, 152. He was given 1 drop doses of creosote carbonate every two hours, and 10 drops of alcohol. The following morning the symptoms had improved, and the next day the temperature had dropped to normal. He was put upon an ammonium carbonate mixture, and from this time on recovery was uninterrupted.

The mother's case was much more serious, being complicated with a five months' pregnancy. Upon my first visit her temperature was 103.6°; respiration, 36; pulse, 140. Creosote carbonate in 3 drop doses was administered every three hours. The following morning the temperature was 103.8°; respiration, 36; pulse, 144. The patient was delirious part of the time. Strychnia was administered hypodermically. This seemed to strengthen the heart but very little. Veratrum viride was then prescribed in 1 drop doses every hour, with instructions to discontinue the drug if it produced nausea. During the next two days the symptoms did not improve to any marked extent. We continued medication with creosote carbonate; also veratrum viride was given at intervals. Cold sponging was also employed to control the fever. On the eighth day there was noted a slight improvement. From this time on recovery was gradual.

During the past year I have used the creosote treatment, and so far it has proved successful in every case. Beech-wood creosote disagrees with the stomach in some cases, but this can be usually overcome by giving smaller doses and at shorter intervals. Creosote carbonate does not disagree with the stomach, and is the better drug to use. In nearly ever instance the course of the disease has been shortened from two to three days.

OPERATIVE EXERCISES FOR CONSUMPTIVES

Hichens (Brit. Med. Jour.) believes that the only way to estimate the effect of exercise on consumptives is by the systematic taking of rectal temperatures. He believes that it is a physician's duty to put a patient on thorough open air treatment as soon as the diagnosis of pulmonary tuberculosis is made. Parker says that, if all consumptives could be treated in sanatoria for three months during the earliest stage of their disease and taught how to preserve the health there regained, very few would reach the dangerous advanced stage.

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IS INSANITY ON THE INCREASE?

A general impression prevails that the number of insane persons is rapidly increasing, at least statistics would suggest this conclusion. To look at this question logically the student of statistics must consider it in all of its phases. In the older and thickly settled countries a certain ratio has been established. In the newer and less populated districts the ratio has varied from time to time; some years it is exceedingly high, and at other times is correspondingly lower. Statistics of the number of insane persons in a county or state are not altogether trustworthy, unless the government is able to list *all* of the insane. The report of the lunacy commissions for England and Wales states that in 1850 the proportion of the population who were insane was 1 to 536; in 1903 the ratio was 1 to 293, a marked increase since 1894. The greatest increase was among the pauper classes, while among the middle and upper classes the increase was not so marked.

If all of the insane could be brought into classification the announcement of the result might be even more startling. The patients who are in hospitals for the insane would not represent the whole number in the state, but if those who are in almshouses, private families, private hospitals, and other institutions were added to the population in state hospitals, a reasonably definite ratio might be established.

The number of persons who become insane and are treated outside of state and private institutions, is very large. No effort is made to catalog these patients as a large proportion of this class recover in a few weeks or months, and are thus lost to the statistical bulletin.

Another fact which suggests an increased number of the insane is the recognition of suitable hospitals for the treatment of the mentally unsound. In former years the family and the physician sought to conceal the insane from public scrutiny; now an earnest effort is made to send such cases to hospitals where they can be scientifically cared for during their illness.

Medical men of the present time, particularly those who are students of nervous and mental diseases, recognize that physical rather than direct mental causes are responsible for the larger number of insanities. The physical disease which results in insanity may be due to heredity, drink, or the strain of modern civilization. Physical disease, then, is the important factor, and the exciting factor of whatever sort is comparatively unimportant.

It is difficult for the layman to appreciate this fact, hence great stress is placed upon mental shocks, anxieties, and disappointments rather than on the individual, his inherent defects and disorders.

The decrease or the increase of insanity depends upon so many factors that only time and study will determine its variations. A better and more comprehensive study of the individual, his disorders, and his diseases will simplify the causation of insanity. The scientific treatment of the individual and his environment will reduce the apparent increase of mental diseases.

Minnesota is still a young state, and with the influx of a large foreign element, the ratio of insane will advance for years.

CANCER AND ITS CURE

A new cure for a supposedly incurable disease always meets with an enthusiastic reception. Old diseases respond promptly to new remedies —for a time. Then comes the reaction, or the reassertion of old and diseased cells which have been temporarily inactive.

Fortunately, a few diseases are permanently cured by new methods, and for that reason enthusiasts and investigators should be encouraged. Unfortunately, the new methods frequently fall into incompetent and unskilled hands who use them for commercial gain, without reference to their scientific value and application. To some men, medical men as well, the word cancer covers a multitude of tumors, and, by a chance hit, the tumor disappears, under different forms of treatment, sometimes permanently, more often temporarily.

The advocates of *x*-rays welcomed this new light as a cure-all, and exploited it on every occasion regardless of the disease and its consequences. Time has neither proven nor disproven the value of the *x*-rays. The conservative and scientific medical man is still withholding a positive opinion. The rabid enthusiasm is giving way to more accurate observation and research. From many quarters reports are creeping into the medical journals that many cases of cures are not permanent, that the disease recurs in more active form, and that patients and operators are suffering from the effects of the rays, unexpected, unexplained, and disastrous. There is much yet to learn about the rays, their remote effects, and the best methods to prevent injury to the patient and physician. Like many absolute remedies the *x*-ray may be laid aside for a time in order that the facts concerning it may be more thoroughly digested, and then it will be restored to its proper place and sphere.

With all the study of cancer, its origin and growth, no definite conclusions have been reached. No treatment can be satisfactorily applied to any disease until research clears its obscurity.

Therapists and pathologists will continue their methods independently until they come together. The pathologist should occupy first place and the therapist second place with his remedy. The man of science will try his remedies based upon a clouded basis, relying upon occasional success for a conclusion.

The newest remedy for cancers of the inoperable type, is one suggested by Dr. A. F. M. Powell in the British Medical Journal for May 30, 1903. A 2-per cent formalin solution (made by adding 19 parts of distilled water to 1 part of commercial formalin) applied on absorbent lint, is laid on the tumor; this is covered with jaconet and cotton-wool, and bandaged on. The dressings should be applied every six hours. A few dressings remove the fetid discharge, and in from three to seven days the tumor looses its elasticity and becomes darkened, friable, and insensitive. In from twelve to sixteen days the growth in many cases may be removed, leaving a healthy granulating base which is not affected by the formalin solution. The underlying surface may then be treated like an ordinary surgical surface.

The suggestion is worth an extended trial even if the result only relieves the fetor and diminishes the pain.

LUMBAR PUNCTURE

According to an article in the Revue Neurologique, the diagnosis of degenerative diseases of the spinal cord may be more accurately determined by an examination of the cerebrospinal fluid than by the usual methods. Professors Brissaud, Widal, Marie, and Babinski, all prominent investigators in neural pathology, have announced, as a result of their experiments, the majority of cases of tabes, general paralysis, meningeal tuberculosis, syphilitic myelitis, and cerebral or spinal tumors show a well marked lymphocytosis.

In normal cerebrospinal fluid lymphocytes are altogether absent or exceedingly rare.

Diseases like hysteria, epilepsy, neurasthenia, and multiple neuritis do not show the presence of lymphocytes.

In the majority of cases of tabes investigated, particularly in those of recent origin, the lymphocytes were abundant; in cases of twenty years' duration a few lymphocytes were found. When syphilis was an important factor in the disease the lymphocytes were more abundant. Evidently the specific virus is an active agent in lymphocytosis.

The technic of cytodiagnosis consists in drawing into a sterilized tube a small, but fixed, quantity of the fluid, which was immediately centrifugalized for ten minutes. The supernatant fluid was decanted, and the sediment was transferred by a small pipette to a glass-slide and allowed to dry at a temperature of 37° C. The specimen was then fixed in a mixture of equal parts alcohol and ether, stained with hematoxylin and eosin, or with thionin, and examined under the microscope.

The reader is referred to an editorial in the London Lancet of May 30, 1903, or to the Monthly Cyclopedia for July, 1903, for further information.

BOOK NOTICES

A Text-Book of Modern Materia Medica and Therapeutics. By A. A. Stevens, A. M., M. D., Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal and St. Agnes Hospitals, Philadelphia. Third edition, greatly enlarged, rewritten, and reset. Handsome octavo of 663 pages. Cloth, $3.50 net. W. B. Saunders & Company, 1903.

Since the appearance of the last edition of this book such rapid advances have been made in materia medica, therapeutics, and the allied sciences, that the author has wisely rewritten the entire work. He has altered the general plan of the book considerably, and instead of considering the drugs in alphabetical order, as in the previous editions, he has classified them according to their pharmacologic action. This arrangement, notwithstanding the present unsettled state of pharmacology, possesses certain advantages in that it aids the student to correlate established facts, and to apply them more readily to the treatment of disease.

The part devoted to Therapeutics has evidently undergone a thorough revision; and we note that all the newer remedies which have been shown by competent observers to possess real merit and to be worthy of a more extended trial at the hands of the profession, have been considered. Indeed, the work is in every particular thorough and accurate, and its title, "Modern Materia Medica and Therapeutics," is fully justified. We heartily commend the work to students and practitioners.

Archinard's Bacteriology. A Manual for Students and Physicians. By P. E. Archinard, M. D., of Tulane University Medical Department, New Orleans. In one 12mo volume of 210 pages, with 74 illustrations. Cloth $1.00, net. Philadelphia and New York: Lea Brothers & Co.

An epitome of a subject, such as the above, has no inconsiderable value when the work is well done, and Dr. Archinard has certainly done his work well. He gives in excellent form the essentials of the subject, and any physician with a fairly good memory after reading this book through will find himself possessed of a fund of very valuable information, which will certainly become the basis of further study and investigation. If an epitome accomplishes this it has done a good work, and the man who thus energizes, so to speak, a few of his fellow workers, has done a good work.

The Practical Application of the Roentgen Rays in Therapeutics and Diagnosis. By William Allen Pusey, A. M., M. D., Professor of Dermatology in the University of Illinois; and Eugene W. Caldwell, B. S., Director of the Edward N. Gibbs X-Ray Memorial Laboratory of the University and Bellevue Hospital Medical College, New York. Handsome octavo volume of 591 pages, with 180 illustrations, nearly all clinical. Cloth, $4.50 net. W. B. Saunders & Co., 1903.

It has been the aim of the authors of this work to elucidate fully the practical aspects of the subject. It is evident that all the authentic literature which has developed since Röntgen's wonderful discovery has been carefully digested, this being supplemented by the extensive experience of the authors. The value of the x-rays in diagnosis has been discussed in a thoroughly practical manner, and their limitations in this field indicated. Particular attention has been devoted to the use of the x-rays in therapeutics. Nearly all the illustrations in this section represent actual clinical subjects, and show with unusual fidelity the condition before the use of the x-rays, at various stages of their application, and, finally, the therapeutic results obtained. Full details are also given as to the use and management of the apparatus necessary for x-ray work. All the methods with which the best results have been achieved have been carefully described in a comprehensive way. There are chapters on "X-Ray Tubes," "Induction Coils and Controlling Apparatus," "Static Machines," "Fluoroscopy," "Radiography," "Photographic Materials Used in Radiography," etc. This section is also fully illustrated with instructive photographs and drawings of the apparatus, including four beautiful full-paged colored plates of x-ray tubes. In fact, the work will be found of invaluable assistance, not only to the general practitioner, but also to the dermatologist, presenting, as it does, the very latest advances in x-ray therapeutics and diagnosis.

MISCELLANY

THE HYDRIATIC MANAGEMENT OF FEVERS

Nothing is of more importance in hydriatic treatment than the manner in which it is applied; indeed, it is the proper carrying out of the details of the method that makes the difference between success and failure. The statement that the patient could not endure cold baths is meaningless in the absence of a statement as to how they were administered. Baruch publishes the following notes in reference to the hydriatic management of fevers: (1) Don't bathe in cold water to reduce fever, but to refresh the fever-stricken patient. (2) Don't permit cyanosis or chattering teeth. (3) Don't stop bathing because a patient complains of chilliness. (4) Don't raise temperature of baths on account of chilliness; shorten bath and increase friction. (5) Don't neglect friction during each cold procedure: it prevents chilling. (6) Don't disregard the fact that the Brand bath at 65° to 70° is the ideal bath for typhoid. (7) Don't use the Brand bath in a bath-room. (8) Don't give up bathing because the ideal bath is not procurable; other procedures are useful. (9) Don't use ice-coil to abdomen; it has no refreshing effect. (10) Don't lose sight of the fact that the chief aim of all cold procedures is reaction.—Medicine.

CALCIUM SALTS IN THE TREATMENT OF URIC ACID CALCULI

A. C. Croftan, in the Journal of the American Medical Association of March 28, 1903, says that the administration of calcium is of value in the removal and the prevention of deposit of uric acid calculi. It must be determined that the calculus is due to uric acid. If such is the case the best calcium preparation is the carbonate. This may be given in doses of 15 to 20 grains three times a day, though much larger doses have been recommended. A convenient form for administering calcium salts is in natural mineral waters, or these may be prepared artificially by adding the salt to some pure water. The natural mineral water of Contrexéville, Wildungen, and Fachingen contains the largest proportion of calcium salts. Personally he prefers adding the necessary amount of calcium salt or lime water to some pure water. He reports four cases of renal colic in which calcium salts were freely used, and none of them have had recurrence of the calculous disease. Von Noorden, who first recommended the calcium salts in the treatment of nephrolithiasis, reports only two recurrences out of twenty-one cases. In one the renal colic began a few days after the treatment was instituted, and in another it developed nine months afterward, but in the later cases it did not recur. The good results obtained in the writer's four cases and the statistics of Von Noorden lead him to believe that the continuous exhibition of a calcium salt is efficacious in uratic nephrolithiasis.

THE UNIVERSITY IN MEDICAL EDUCATION

One of the few opportunities out of the pulpit that is afforded to preach ethics and high standards, comes to men eminent in their profession when they are invited to address a graduating class at a University commencement. Doubtless the best idea of a nation's ideals and aspirations can be obtained from such addresses, and a better appreciation of educational values has been brought about by the long established custom.

The annual address to the graduating class of the Yale Medical School given by Dr. Henry M. Hurd of Johns Hopkins Hospital, and published in Science, contains suggestions that are pertinent to all interested in medicine.

After tracing briefly the circumstances of medical education in America, he shows the two methods by which different colleges and institutions approach the question "How shall medical education be studied." On one hand there is the opportunity given to the student to begin his medical work in the third year of college, and to combine his studies for his bachelor and medical degree. On the other hand there is the tendency to divorce the medical question from the college course and to pursue the latter independently. While the first mentioned is the more practical method, and the one most likely to be in vogue, the latter tends more to general culture.

Dr. Hurd maintains that the present requirements for medical education have become so extensive and exacting, that schools which have hitherto been maintained as commercial ventures, and for the private gain of their owners, can no longer be profitable if they honestly seek to do their duty towards the student. Such schools although making the most praiseworthy efforts to fit men to be doctors, do little for the science of medicine. He holds that the present situation demands that schools connected with universities shall perceive the need of the student, and protect him from imposition by affording him instruction of a high standard, and that the university should set the standard. The country suffers from too many imperfectly educated men. The university is alone competent to limit the production and to improve the quality.

The intensely practical nature of the studies of a physician are by no means undervalued by Dr. Hurd, but he holds that in view of the tremendous scientific achievements of the last half century, and the possibilities of still more brilliant work, that the medical school needs every advantage that the university can afford.—Medical News.

NEWS ITEMS

Dr. E. C. Beer has located at Royalton.

Dr. E. V. Simons has moved from Fountain to Etna.

Dr. Bray, of Biwabik, is building an addition to his hospital.

Dr. G. N. Butchart has returned to Hibbing to resume private practice.

Dr. Walter Courtney denies the report that he is going to leave Brainerd.

Dr. Limberg, of Bowbells, N. D., has moved to Portal, in the same state.

Dr. L. P. Jewell, of Pine Island, has gone to Wanamingo, a brand new town.

Dr. John N. Wheat, a homeopathic physician, of Austin, died last month at the age of 85.

Dr. E. M. Meadows, of Oberon, N. D., has bought the practice of Dr. Swenson, of Maddock, N. D.

The new St. Lucas Hospital at Fergus Falls will be ready for occupancy next month.

Dr. J. S. Seeley has returned to his practice in Faribault after several months' absence.

Dr. F. V. Lyman, of Caledonia, has located at Harmony. Dr. Lyman is a graduate of the State University.

Dr. F. E. Walker, of Worthington, has purchased a commodious residence, which will be used for a hospital.

The Catholic Sisterhood of Aberdeen, S. D., will open a hospital at Brookings, and will spend $10,000 for buildings.

Dr. F. H. Fowler, of Statesman, N. D., has been appointed a member of the N. D. State Board of Medical Examiners.

Dr. E. Corrigan has succeeded to the practice of Dr. Platou, of Sioux Falls, S. D., the latter having decided to return to Norway.

Dr. A. W. Shaleen, who graduated from the State University last year, has located at Hallock, becoming a partner of Dr. Lockwood.

It is reported that Dr. Michael Senn, of Chicago, and Dr. Janeway, of New York, have purchased 5,000 acres in Itasca county, and will conduct a sanitarium there.

Dr. C. E. Wolfte, a graduate of Northwestern of Chicago, has located at Garretson, S. D., and has bought the practice of Dr. J. O. Lee. Dr. Lee will move to Sioux Falls.

Dr. E. W. Spottswood has been appointed Chief Surgeon of the Northern Pacific Hospital at Missoula, Mont., succeeding Dr. J. J. Buckley, who resumes private practice.

Twenty-eight young physicians took the recent examinations in North Dakota for certificates to practice. The following twenty-four were successful: Dr. Josephine S. Lindstrom, Oberon; Dr. J. M. Ekrem, Ft. Ramson; Dr. Courtney, Brainerd; Dr. Ferdinand G. Benn, Kulm; Dr. C. E. McReynolds, Mooreton; Dr. W. P. Thelen, Carpio; Dr. Willard L. Burnop, Cooperstown; Dr. Charles V. B. Pooler, Chicago; Dr. T. W. Welch, Chicago; Dr. A. W. Skelsey, Fargo; Dr. A. M. Linburg, Bowbells; Dr. J. J. Ratcliffe, Valley City; Dr. Geo. P. Wilkinson, Omaha; Dr. J. A. Johnson, Black River Falls, Wis.; Dr. G. Roy Rings, Northwood; Dr. Carl Rollefson, Kenmare; Dr. L. H. Bussen, Valley City; Dr. J. E. Cramond, Rugby; Dr. O. W. Rowe, Towner; Dr. Arthur A. Whittemore, Leeds; Dr. Alfred M. Call, Rugby; Dr. Morris D. Silver, Oakes; Dr. C. E. Spicer, Dazey.

ANNOUNCEMENT

The Minnesota State Board of Medical Examiners still have on hand copies of their Official Register, containing the names, addresses, etc., of all licensed physicians in the state. They will send this free to any one who will remit five cents to pay the postage. THE LANCET will publish the names of those passing the examination at future dates, and these names can be pasted in the register, thus keeping the list complete. For copies of the register, apply to the Secretary, Dr. C. J. Ringnell, Minneapolis.

FOR SALE

A rubber-tired covered Stanhope, which was made by Babcock and cost when new $225, is now for sale cheap, and is in good condition. Address Dr. F., care of THE LANCET.

FOR SALE

I have an extra ophthalmometer, practically new, which I will sell for 50 per cent of its cost price. Address Dr. C. H. Kohler, 612 Pillsbury Bldg., Minneapolis.

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EYE-STRAIN FROM THE VIEW-POINT OF THE GENERAL PRACTITIONER*

By Edward Benedict Taylor, M. D.

HURON, S. D.

The literature of eye-strain goes on accumulating, yet you, who as general practitioners should be among the most interested, are practically barred from the subject. You are not, nor do you desire to be, refractionists. This places you where you can neither make your own diagnoses nor even accurately select the cases that should be sent to an oculist. If you consider the matter at all you have to refer the patient to a specialist either on suspicion or simply as a last resort. I believe, however, there is a way to take up the subject with satisfaction to yourselves and benefit to your patients; and to endeavor to indicate the way is the sole object of this paper.

The literature tells us that many cases of so-called functional disease are due to eye-strain. This includes, among others, hysteria, neurasthenia, chorea, and headache. In headache it says the percentage is as high as from 40 to 80. It tells us also that almost any chronic disease may be aggravated by it, and further tells us that it is an important element in the study of epilepsy and even of insanity. When we consider that the eye is the most overworked organ in the body of civilized man, and that it is used for the most part on objects so close at hand that the focusing power is almost constantly in action, is it any wonder that if it becomes impaired the unconscious strain required to work with so imperfect an instrument should irritate the general system? Some physicians in an attempt to locate eye-strain have hung cards of test-letters in their offices, and send to an oculist all cases that cannot read the *normal* line. As a matter of fact this method will locate every case of near-sightedness, which effects the nervous system but little, while it will fail to locate more than one in twenty of the cases of far-sightedness, which are of the utmost importance in this regard.

What is needed is a method of examining the eye that is *accurate enough to base a diagnostic opinion upon,* and yet simple enough and quickly enough applied to become a part of the general examination. My object is not to make poor refractionists out of good physicians, but to endeavor to give you a means of diagnosing eye-strain that will be more simple and infinitely more easily learned than is the use of the stethoscope or percussion-hammer. An hour's attention to the subject I believe will enable you to apply the tests *understandingly* and *scientifically.*

The outfit* necessary for the examination should consist of four convex lenses, as follows: +.50 D, +1. D, +2. D, and +3. D. The plus sign is used to indicate that the lens is convex. The D, standing for *dioptre,* indicates the strength of the lens. A lens of +1. D. focuses at a distance of one meter; a +2. D. at one-half meter; and so on. The convex lenses are to be used in testing for hypermetropia (far-sightedness), a condition resulting from the eye-ball being so short from before backward that the rays have not yet come to a focus when the retina is reached.

Besides the convex, the set should contain the following concave lenses: —.50 D, —1. D, —2. D, and —3. D. The minus sign indicates a concave lens, and the D, for dioptre, that each lens is exactly the reverse of a convex lens of the same number. These lenses are used in testing for myopia (near-sightedness), a condition due to the eye-ball being so long that the rays come to a focus before the retina is reached.

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*Read before the South Dakota Medical Association, May 27, 1903.

*F. A. Hardy & Co., Chicago, will furnish this outfit for $2.50, or for $3.50 with case.

In addition to these eight lenses, there should be a Maddox rod (Fig. 2), which will be described later, and which is used to test the muscles that move the eye-ball. Further, the set should contain a suitable trial-frame (Fig. 3), in which the different lenses may be placed when making the tests, and an opaque disc (Fig. 4), with which to cover one eye while the other is being examined. Finally, the outfit must contain a card of Snellen's test-letters, and a suitable chart (Fig. 6) to test for astigmatism, a condition due to a warping, as it were, of the cornea, causing a distortion of the rays of light as they enter, or it may be produced, very rarely, by a similar warping of the retina. This warping may be so great as to make the eye far-sighted vertically, for instance, and near-sighted horizontally, or it may simply be more far-sighted or near-sighted in one direction than in the other. Both of these cards are to be hung in a good light and so that the patient can be placed twenty feet in front of them, the distance at which the tests are made.

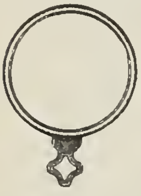
FIG. 1.

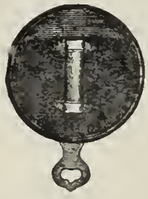
FIG. 2.

FIG. 4.

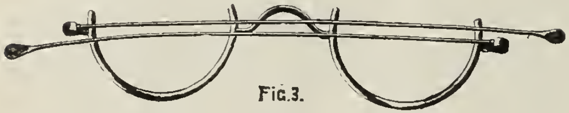
FIG. 3.

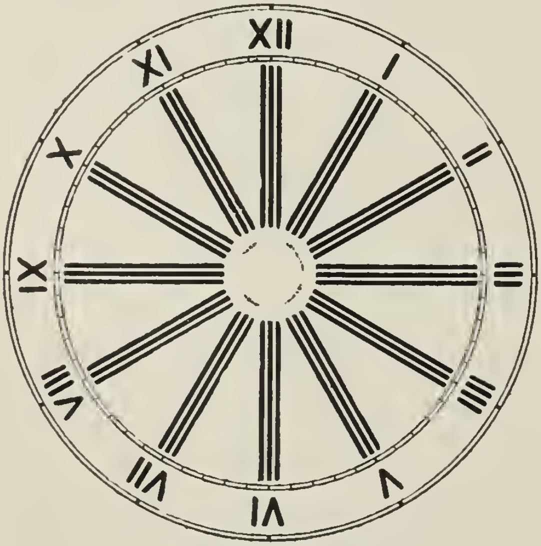

FIG 6. TEST FOR ASTIGMATISM.

SNELLEN'S TEST TYPE

200

Z

100

S A

70

P X E

50

K F O L

40

R B T V Z

30

N S P L H 4

20

F E O D C Z 3

15

P S L N H 4

10

O E Z F O D 3

Being ready for the examination, you seat the patient twenty feet from the cards, adjust the trial frames, and place the opaque disc in front of one eye. The lines of test-letters are numbered, each number indicating the distance at which the normal eye is able to read the line. The vision of each eye is tested separately. If the right eye reads line No. 20, which is normal, we record it as R. V. (right vision) twenty-twentieths (20/20).

20 equals distance of patient from letters.

20 equals distance at which the normal eye can read the letters.

If line No. 70 is the smallest that can be read, we record it as 20/70, and so on. The two lower lines, 15 and 10, are for those having abnormally acute vision, which is recorded as 20/15 or 20/10, as the case may be.

Having noted the vision for each eye you next place the +.50 D lens in front of one eye, keeping the other covered by the opaque disc. If the eye is normal, it should have read 20/20 with no lens, and the +.50 D should perceptibly blur the letters. If the +.50 D does not perceptibly blur the smallest letters read by the naked eye, you *know* that the eye is hypermetropic. If it is desired to measure approximately the degree of hypermetropia, stronger and stronger convex lenses are placed before the eye until the letters begin to blur. If the +3. D lens is not strong enough you can increase it by placing another in front of it: for instance +3. D and +1. D equals +4. D and so on. Moderate cases of hypermetropia can read 20/20 with the naked eye, and often even the smaller letters so that being able to read 20/20 does not at all signify that the eye is normal. If the +.50 D lens blurs, showing that there is no far-sightedness, then proceed with the concave lenses to see if they *improve* vision. A mild, concave lens often makes the letters appear more brilliant, when the vision is not improved and may even be diminished. *No lens improves vision unless it enables the eye to read letters that were before indefinable.* If the vision is improved by this or any other concave lens, you *know* the eye is myopic. To estimate the amount of myopia, try stronger and stronger concave lenses, until the best vision possible is obtained. Two or more concave lenses may be used together to obtain the desired strength, the same as with the convex lenses; —3. D and —2. D equals —5. D.

Unless there is hypermetropia or myopia of over 6. D you can, in the way just described, give 20/20 vision, or nearly so, unless astigmatism is present or the vision is blurred by disease or accident.

To test for astigmatism, place on the eye the lens or lenses giving the best vision, or if the vision is fairly good you can test the naked eye. In either case direct the patient to look at the radiating lines, keeping one eye covered by the opaque disc. These lines are surrounded by a clock-dial simply to give numbers to them. If all the lines look equally clear and distinct, there is probably no astigmatism. If some of the lines are more or less indistinct, ask the patient to look at the lines just opposite. If these be equally indistinct and the lines at right angles to them more distinct, astigmatism is probably present. For example: The lines from XII to VI are indistinct, and those from III to IX more distinct. Astigmatism is not always so easily detected as this would indicate. Perhaps only one line will look bright and black, while all the rest will be fairly distinct, but not so bright. If any *marked* difference of any kind is apparent between the various lines, astigmatism is most probably present. If now by some plus or minus lens you can make the dull lines become clear and the clear ones dull, astigmatism is *positively* present.

The lines from XII to VI appear slightly brighter than the rest to the normal eye, but if the vision is 20/20 or can be made so with plus or minus lenses, it is not considered that at most there is enough astigmatism to need correction.

If the lines do not appear the same throughout their whole length, but the line IX, for instance, appears bright and the line III dull, irregular astigmatism is probably present. This cannot be exactly corrected by glasses.

By this means the *great majority* of cases of ametropia can be discovered and approximately measured. All of the cases can be discovered if a cycloplegic be used. As solutions do not always keep well, it is most convenient to keep on hand a box of the gelatine ophthalmic discs recommended by Dr. Wood. For the purpose in hand those containing, each, homatropin hydrobromate, gr. 1-50, and cocain hydrochlorate, gr. 1-50, are perhaps the best. These can be procured through your druggist. One of these placed in each eye fifteen minutes before beginning the examination will relax the accommodation sufficiently. The effect of these drugs will wear off inside of twenty-four hours. Unless an accurate measurement is desired, it is not necessary to completely paralyze the ciliary muscle. Having the accommodation relaxed calls for absolutely no change in the method of examination. It is done for the reason that now and then in cases of hypermetropia the ciliary muscle, from the constant strain it is under, becomes irritated and spasmodic, the spasm often being enough to hide the hypermetropia, making the eye appear normal. This produces what is called latent hypermetropia. In some cases the spasm is so great as to cause the hypermetropic eye to appear myopic. *The effect of a spasm of this kind is very marked, and if undetected a severe nervous strain lies undiscovered.* It is well always to test with the plus lenses first as they relax the accommodation, while the minus lenses if used first are apt to so excite it as to make the examination uncertain.

The examination will now be completed with tests applied to the orbital muscles.

To obtain single vision the eyes must both look at the same object at the same time. A slight deviation of one or both eyes will cause diplopia (double vision). The necessity of single vision prompts us to an unconscious effort to maintain it. If one of the muscles is too short or its opponent too weak, it will *tend* to produce squint and double vision, but up to a certain degree this *unconscious effort* will be able to keep the eyes in line, though, as is plain to be seen, the result will be a certain amount of *strain.* This strain, which is continued during all the time the eyes are in use, constitutes a source of irritation to the nervous system that cannot be ignored. When the eyes *tend* to get out of line, but are restrained by this unconscious effort, the condition is called heterophoria. If the eyes tend to diverge from each other on account of too short external or too weak internal recti, *exophoria* is present. If they tend toward too much *convergence* it is termed *esophoria.* Should one eye tend to rise higher than the other it is spoken of as *right hyperphoria* or *left hyperphoria,* as the case may be.

Heterophoria is as apt to be *latent* as is hypermetropia, but as we have no practical way of paralyzing the orbital muscles and measuring their strength, as we have with the ciliary muscle, it is obvious that at one examination little or no heterophoria may manifest itself when there may prove to be a grave error in one or more muscles.

Heterophoria is corrected by the wearing of prisms, or radically by operating on the impaired muscles.

To bring out the latent heterophoria, the patient is given prisms which correct a portion of the error that manifests itself, and when the case returns for another examination, more error may have become manifest. A portion of this is corrected, and the process continued until no more error will manifest itself. All of the heterophoria may be manifested at the first sitting, in which case no more can be coaxed out by wearing prisms.

The coaxing out of the latent heterophoria requires as great care and precision as accurate refraction, and with it will probably remain in the hands of the specialist.

To detect manifest heterophoria is extremely easy, and it is done in a moment. For this we make use of the Maddox rod, which is simply a solid cylinder of glass about one inch long by about one-eighth of an inch in diameter. When looking through this at a candle or other small flame twenty feet distant, the eye sees only a streak or band of light. If placed before one eye, leaving the other eye free, the free eye sees the flame and the eye behind the Maddox rod sees a band of light. By thus making the same object appear differently to the two eyes, the desire for single vision is destroyed and the eyes are permitted to assume each the position easiest for it. If the muscles are in normal balance the band will appear to pass through the center of the flame; but if there is manifest heterophoria, the two will appear more or less distant from each other according to the amount of the heterophoria manifest.

The oblique muscles are difficult to examine and at the present stage of our knowledge are practically ignored. This shows our present limitations.

To test for exophoria and esophoria, place the Maddox rod horizontally before one eye, leaving the other free. Having the rod horizontal causes the band of light to be vertical. If when looking at the flame twenty feet distant the band appears to pass through the flame, there is no manifest exophoria or esophoria; but should it appear to be on one or the other side of the flame manifest exophoria or esophoria is present.

If the rod is before the right eye and the band appears to the right of the flame, the error is esophoria (Fig 7-*b*.), but if the apparent positions are reversed exophoria is present (Fig. 7-*c*. In other words, if the band of light appears to be on the same side as the Maddox rod, the condition is esophoria; if the reverse, it is exophoria. Should the band and the flame appear two inches apart it indicates that there is manifest esophoria or exophoria of one degree, and that a prism of one degree will correct it; if they appear four inches apart it indicates that a prism of two degrees will correct it, and so on. To test for hyperphoria, place the Maddox rod vertical, making the band of light horizontal. If the band appears to pass through the flame there is no manifest hyperphoria; but if the band appears either above or below the flame, hyperphoria is present. To know which eye it is that is hyperphoric we have simply to remember that the hyperphoric eye sees the lower image; thus if the rod is before the right eye and the band appears below the flame, the case is one of right hyperphoria (Fig. 8-*b*.), but if the flame appears below the rod it is left hyperphoria (Fig. 8-*c*.)

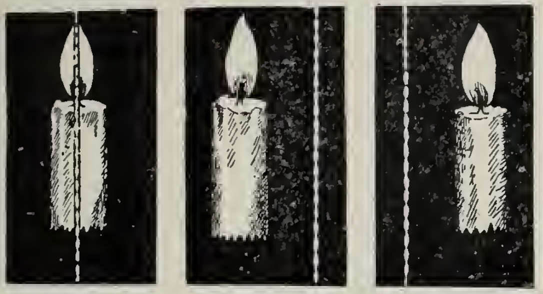
a—Normal. b—Esophoria. c—Exophoria.

FIG. 7. MADDOX ROD-TEST FOR EXOPHORIA AND ESOPHORIA, THE ROD BEING BEFORE THE RIGHT EYE.

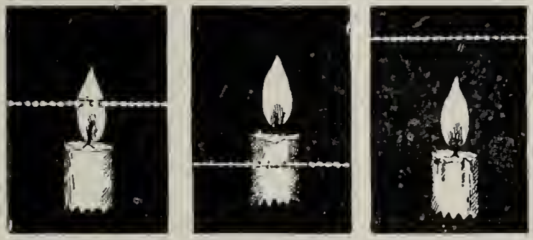
a—Normal. b—Right hyperphoria. c—Left hyperphoria.

FIG. 8. MADDOX ROD-TEST FOR HYPERPHORIA WITH ROD BEFORE RIGHT EYE.

If the rod is before the left eye and the band appears below the flame, it signifies left hyperphoria; if the flame appears below, right hyperphoria. Every two inches of apparent separation of the flame and band indicates one degree of manifest hyperphoria.

To become familiar with the examination here described requires nothing more difficult than the memorizing of a few new terms. When *tried* the surprise will likely be that it is so simple.

From the standpoint of the neurologist, it seems to me that the use of these few lenses should be as familiar to the physician as the use of the stethoscope and percussion-hammer.

THE DOCTOR'S PROMISED LAND

Tell me, ye winged winds
That round my pathway play,
Is there no place on earth
Where doctors get their pay?
The whispering winds went by
With accents filled with woe;
A voice borne on the morning air
In sadness answers "No."

Tell me ye flowing streams
That smoothly glide along,
Is there no cherished place
Where doctors meet no wrong?
The gentle brook replied
In murmurs soft and low,
And wending on its verdant way
It meekly answered "No."

Tell me ye murky clouds
Now rising in the west,
Is there upon the globe
One spot by doctors blessed?
The flushing clouds outspoke
With an indignant glow;
A voice that filled the earth with awe
In thunders answered "No."

Tell me, angelic host,
Ye messengers of love,
Shall suffering doctors here below
Have no redress above?
The angel band replied:
"To us is knowledge given;
Delinquents on physicians' books
Can never enter heaven."

—J. B. Mitchell, The Medical World.

THE SEQUELS OF APPENDICITIS*

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MINNEAPOLIS

Chronic inflammations as a rule are the result of a preceding acute inflammation which, for various reasons, has not gone on to complete resolution. This does not hold true in all cases of appendicitis, for every practical surgeon meets with cases of chronic appendicitis in which the patient has never had an acute attack of inflammation of any kind in the abdomen. Many cases of acute appendicitis are really sequels of an unsuspected or unrecognized chronic appendicitis.

About three years ago a gentleman brought his son to me for an operation for recurrent appendicitis. After arranging to send the boy to the hospital the father consulted me concerning himself. He stated that for twenty years he had been suffering from frequent attacks of "cramps in the bowels," and that for the past two or three years they had been so frequent and severe as to impair his health and seriously interfere with his business. His attacks never lasted over three hours, and had never confined him to his bed for a day. He was usually able to attend to his business the next day after an attack, but did not feel very well. Some of the attacks had been accompanied by vomiting, and the pain, although very severe, was not distinctly localized, but seemed to be all over the abdomen. Upon examination I found that he had no hernia, which I had suspected, but that he had an appendix so large that it could be readily palpated, and that it was evidently attached by adhesions to surrounding bowels. He promptly accepted my advice, and I operated upon him and his son on the same day. I found an enlarged, chronically inflamed appendix, which was closely adherent to the transverse colon, which was dragged down to the lower part of the abdomen. He recovered promptly, and has enjoyed good health ever since. This is a fair example of a class of cases that are supposed to occur only as sequels of acute appendicitis, and which are liable to be unrecognized unless the attending physician fully understands that they may occur without the patient's having had an acute attack.

One of the sequels of appendicitis dreaded and constantly guarded against by surgeons is ventral hernia. Hernia should never occur after an interval operation, and it does not occur when the operation has been performed by one who understands asepsis, and who knows how to make and to close an abdominal wound. Various locations for the incision were recommended in the early history of this work, with a view of preventing hernia, but the fact is that a short clean-cut incision can be made in any part of the abdominal wall without fear of hernia, providing it is closed aseptically and layer by layer.

After operations during the suppurative stage of appendicitis every surgeon is sure to have some hernias, but since we have learned that we can secure just as good drainage through a one inch opening as through a four inch one, we have fewer hernias. It is not easy to explain satisfactorily the fact that we can make a three or four inch opening through the abdominal wall, through which foul pus is evacuated, and can then wipe off the edges of the wound with gauze and close all but one inch of this wound, in the usual manner, and still secure primary union. This result can not be hoped for in every instance, but it is the rule rather than the exception. Much can be accomplished toward preventing hernia in these cases by packing around the drainage tubes with gauze just inside of the abdominal wall until the intestines and omentum have formed their protecting attachments at some little distance from the drainage opening.

Fistulæ are not uncommon sequels of appendicitis when the abscess has opened spontaneously through the abdominal wall, or when an operation has been performed during the attack. They are usually due to the remains of a septic and chronically inflamed appendix, and can be prevented by removing the appendix at every operation. This procedure, however, is not to be recommended as a routine practice, for in inexperienced hands it may be a very dangerous undertaking. As a surgeon's experience increases he will gradually learn to remove it in a larger percentage of cases until finally he will be able to safely remove it in the vast majority of cases. The only certain cure for these fistulæ is an operation for the removal of the appendix. In several of these cases I have found an enterolith loose in the abdomen, and in one instance I found a Murphy button. This operation is not so safe as an ordinary interval operation, but it is reasonably safe and very satisfactory.

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*Read before the Minnesota State Medical Society, June 17-19, 1903.

A fecal fistula is an occasional sequel of appendicitis. It is most likely to occur where the case is operated upon at a late period, and when the surgeon is obliged to break down intestinal adhesions in order to reach pockets of pus. It is also the result of unskillful or too prolonged use of drainage tubes. A drainage tube should never be left for any considerable length of time without protecting the intestines with gauze. On the other hand it should always be remembered that gauze does not drain pus. Many lives have been lost because the outlet from an abscess has been plugged by gauze. When the fistula communicates with a large intestine it will practically always heal although it may require many weeks or months, but when it communicates with a small bowel it will many times remain indefinitely. When such a fistula has continued for a number of months the chances are that it will remain indefinitely unless relieved by an operation. The operation for fecal fistula is difficult and dangerous, and should be undertaken only by surgeons of large experience in abdominal surgery. It always involves the separation of extensive adhesions and frequently the resection of a piece of intestine.

The physician is even more interested in the sequels of appendicitis than the surgeon, for it is to him the patients suffering from them usually come for relief. An idiopathic peritonitis practically never occurs. Appendicitis is the most common cause of peritonitis, and nature in her efforts to bring about a cure establishes many peritoneal adhesions. These adhesions for a time are very helpful by walling off accumulations of pus, and limiting peristalsis, but when they remain, as they are apt to do, as long as the original cause of the peritonitis, the appendix, remains, they become pathologic, and may cause a great variety of ailments which are daily coming under the physician's observation. When the offending appendix is removed it is not imperative to break down every peritoneal adhesion, because nature will then remove them. Many cases of chronic indigestion and constipation which can be only temporarily relieved by medical attention, are due to peritoneal adhesions that are the sequels of a peritonitis caused by an appendicitis. These adhesions cause pain, and they interfere with peristalsis, secretion, and excretion. They sometimes cause chronic catarrh of the bowels, and may even be the cause of neurasthenia and chronic invalidism. In all such cases a careful inquiry should be made as to a previous history of an abdominal inflammation. It is not sufficient to ask the patient if he has had an attack of appendicitis, for he may deny this when he will admit having had a peritonitis or an inflammation of the bowels. These are not theoretical conditions, for every experienced surgeon can give a long list of dyspepias, chronic diarrheas, indigestions, constipations, etc., that have disappeared after the removal of a chronically inflamed appendix. It is comparatively easy to establish the relation of cause and effect between these conditions and an acute attack of appendicitis, but I wish to call attention again to the fact brought out in the first part of his paper, that a chronic appendicitis with its complications and sequels may exist without there ever having been an acute attack.

From among many recorded cases in which patients have been relieved of the various afflictions mentioned I will outline but one.

Mrs. H——, aged 35, came under my observation about three years ago. She was then slightly jaundiced, and gave a history of having had repeated attacks of what her physicians called peritonitis. She suffered pain all through the abdomen, particularly in the gall-bladder and appendicial regions. She was emaciated, and suffered from chronic indigestion and constipation, and was pretty nearly a nervous wreck. I told her then that she had either appendicitis or gall-stones, or both, and that her only hope of relief was through surgery. She did not accept my advice, but continued to have ups and downs under medical care, being an invalid all the while, until about one year ago when she consulted me again. Upon examination at this time I found in addition to her previous ailments that she had extensive pelvic inflammation. She was now willing to discuss the propriety of surgical treatment, but had not fully made up her mind to resort to it. I did not urge her at this time to be operated upon at once, because the pelvic inflammation was of too recent date to make it as safe as it would be later. I referred her to one of our lady physicians, who gave her local treatment under which she made very satisfactory improvement. This last autumn she came to the Northwestern Hospital for operation, stating that now she had made up her mind to undergo an operation she wished to have everything done that was necessary. An incision was made through the right rectus muscle. No gall-stones were present, but adhesions in the gall-bladder region were broken down. A chronically inflamed and adherent appendix was removed. The right tube and ovary were found adherent and chronically inflamed, and were removed. The abdomen was closed, after which we operated upon her hemorrhoids, which were also a sequel of her appendicitis. She made an uneventful and quite rapid recovery. She has gained in flesh and strength, and is now enjoying very good health, and is a most grateful patient.

Obstruction of the bowels is one of the gravest conditions met by physicians or surgeons, and it has been estimated that one-third of all these cases are due to adhesions or other sequels of appendicitis. When a patient is convalescing from an attack of peritonitis due to appendicitis, whether he has been operated upon or not, he should be informed of the possibility of obstruction of the bowels later, so that he may call for surgical aid early. When a physician is called to a case in which he suspects obstruction of the bowels, and learns that the patient has previously suffered from peritonitis, he should remember that there is a great probability that there is obstruction due to adhesions or bands, and that the patient's only hope may lie in an early operation. I wish to illustrate this phase of my subject by a brief record of two cases, one successful, and one

The first case is one already in literature. The unsuccessful.
patient was a Wright county farmer, who suffered from a very severe attack of appendicitis for which his physician advised operation, which he declined, and although despaired of for a time he finally made a seeming recovery. About two months later he suffered from obstruction of the bowels. I first saw him within forty-eight hours, and he then had all the typical symptoms of obstruction, and was evidently in a desperate condition. He was in a small, dirty farm-house; it was night time with one physician and a priest as assistants. Upon opening the abdomen a large quantity of bloody serum escaped, and the distended bowel was quite dark. The obstruction was easily found to be an adhesion, the sequel of his appendicitis. This and the remains of his appendix were removed, and the wound closed. He made a speedy and complete recovery. It is to be hoped that this man appreciates the fact that he owes his life to his family physician, who secured surgical aid as soon as he possibly could. I had traveled sixty miles by rail and five miles on a sled to reach him. A very few hours more would surely have placed him beyond hope of recovery.

The second case was a Minneapolitan, aged twenty. While attending school in Massachusetts he suffered a very severe attack of appendicitis. He was taken to Roosevelt Hospital in New York where he was operated upon by Dr. Elliot, who made two incisions, one in the right inguinal region and the other in the median line, and established drainage through both openings. After a number of weeks the wounds closed, and he became convalescent. About two months after the operation, when he was able to walk about the house with the aid of a cane, he was taken suddenly with symptoms of acute obstruction. He suffered from severe pain and vomiting. At first quite a quantity of fecal matter was removed from the lower bowel by enemata, but after the first day no gas or fecal matter escaped. He continued to vomit, his abdomen became distended, and his pulse rapid. On the third day additional medical advice was called, and at the beginning of the fourth day I saw the patient for the first time. Operation was urged as the only possible chance, and as soon as possible the patient was taken to the Northwestern Hospital, and the abdomen opened through the right rectus muscle. After breaking down many adhesions the point of union between the flaccid and distended bowel was found, and the constricting band relieved.

The dark, distended bowel began to improve at once, and the empty bowel began to fill. The distended bowel was very dark and looked dangerous, but it began to improve in appearance so promptly that we hoped that it would recover. The operation was completed in fifty minutes, and the patient returned to bed in as good condition as before the operation. The only medication was 1-30 grain of strychnia, hypodermatically, every three hours. Within twenty-four hours he began to pass some gas, and on the second day with the aid of castor oil, rhubarb, and high enemata his bowels moved very freely. His pain was greatly relieved, and his pulse came down toward normal very rapidly. The patient was bright and cheerful. He began to take a little liquid nourishment, and we all hoped for recovery; but on the fourth day the bowel which had been too long pinched and distended gave way. He was taken with sudden excruciating pain, went into collapse, and died.

After knowing how well this patient stood the operation I have no doubt whatever but that he would have lived had it been performed early.

REPORT OF A CASE OF PERFORATIVE TYPHOID ULCER—DIFFUSE SUPPURATIVE PERITONTIS—WITH OPERATION AND RECOVERY*

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MINNEAPOLIS

The history of the case which has called forth this paper, and which I wish to report briefly, is as follows: A young man, 20 years of age, was seen in consultation with Dr. A. C. Tingdale at 3 a. m., March 22, 1903. The patient had been feeling slightly sick for between two and three weeks, but has been up and about until ten days previously, when he became so much worse that he went to bed and called a physician. His symptoms were headache and increasing sense of weakness. A diagnosis of grip was made, and under treatment he improved enough to get out of bed and for two days previously had gone out of doors and to his father's store a block away. During the afternoon of the 21st he ate some preserved fish, and at 5:30 p. m. was taken with such intense abdominal pain that he lay doubled up on his side and unable to move. He was seen for the first time by Dr. Tingdale at midnight, and was given ¼ gr. morphine hypodermically. His pulse was 100 temperature 102°. When I saw him three hours later his condition was as follows: He lay on his side with legs drawn up, absolutely refusing to move because of the pain; pulse remained at 100, but temperature had fallen to 99.5°; abdomen rather flat, but rigid as a board; mind clear; pain extreme; no collapse.

The diagnosis of intestinal perforation was concurred in, either of the appendix, or what was more likely because of the previous history, of a typhoid ulcer. He was removed to the Swedish Hospital, and operated upon under ether narcosis at 8:30 a. m., fifteen hours after perforation, Dr. Tingdale assisting. Incision was made through the right rectus muscle, increased to about six inches. The abdomen was found full of foul-smelling, grayish, thin pus, under such pressure as to spurt several feet when the peritoneum was opened. There were no adhesions, and the large amount of pus filled the entire abdominal cavity. The peritoneal coat, however, had not lost its luster.

The appendix was first sought for and removed. Its condition precluding the possibility of its being the cause of the extensive peritonitis, a perforation was sought for in the ileum, commencing at the ileocecal valve. About twelve inches proximal to the valve a perforation was found, about three-eights of an inch in diameter with thick ragged gray sloughing edges. This was closed by two layers of fine silk matrass sutures. The abdomen was then flushed out with a large quantity of hot normal salt solution, much of the bowel being delivered to get at the region around the spleen and left kidney. Gauze drains were carried into the lumbar regions, and a large rubber tube to the bottom of the pelvis. The abdominal wound was closed down to the drains by through and through silkworm sutures, the cavity being left full of the salt solution. The operation lasted about an hour, but the shock was very little. The head of the bed was raised about twelve inches, both to gravitate the infection to the less dangerous pelvic region and to give better drainage. Food and drink were given by the rectum, and it was a week before he could take food by the mouth without vomiting. For a week or more the tympanites was quite marked, and relieved by turpentine enemata. The temperature varied between 99° and 101°, and the pulse between 80 and 100, but became normal at the end of two weeks.

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*Read before the Hennepin County Medical Society, June 1, 1903.

The edges of the abdominal wound became infected, and all the stitches had to be removed. This allowed the coils of the intestine to protrude somewhat, but they were restrained by strips of oxide of zinc plaster. The pus showed bacteriologically only the colon bacillus. The Vidal reaction was positive. He left the hospital after two weeks, and put on flesh rapidly. The wound has entirely healed, and he is out and around wearing a hard-rubber pad and bandage.

The importance to be accorded intestinal perforation in typhoid fever may be appreciated from the fact that the census of 1900 records 35,379 fatalities from this disease, of which it is fair to assume that at least 3,500 were due to intestinal perforation. Under medicinal treatment the mortality from this complication has always been practically 100 per cent, so that the only hope seems to lie in surgical intervention. In my opinion no plan of treatment is to-day open to discussion except that by operation.

Operation for this condition is of comparatively very recent origin, only one successful case being recorded up to 1891. By 1896 seventeen cases had been tabulated with a recovery rate of 17 per cent. Since then every year has given a steadily increasing number of cases, and also a much diminished death-rate. In 1898 Dr. Keen ("Surgical Complications and Signs of Typhoid Fever") collected 83 cases with a mortality rate of 80.7 per cent, and in 1899, 75 additional cases with a mortality of 72 per cent. In 1901 Cushing reported 12 cases from Johns Hopkins with 7 deaths, a recovery rate of 41.6 per cent, and in the present year (1903) Hayes of Pittsburg reports 7 cases with 4 deaths, or 42.8 per cent recoveries. This is a most remarkable and gratifying improvement in the recovery-rate of this hitherto hopeless condition, and that within the short period of five years.

When we analyze the various series of cases we find the mortality most markedly influenced by the time elapsing between the perforation and its closure. In the early days it was strongly advised that time be allowed for recovery from the initial collapse. It is now, however, well established that collapse does not occur immediately following the perforation, but is rather a symptom of the secondary diffuse suppurative peritonitis, and that with its advent the chances of recovery have become reduced to almost nil. Inasmuch as death in these cases is the result of this secondary septic peritonitis, it seems axiomatic that the earliest possible closure ought to give the best results, and the latest statistics prove this to be true. Armstrong of Montreal, in a large personal experience—34 operations—(Annals of Surgery, vol. 36, p. 735) had 40 per cent of recoveries in cases operated on within the first 12 hours, and only 10 per cent of recoveries in cases operated on in the second 12 hours, while only a single case recovered which was operated on subsequent to this time. In Hayes' three recoveries, the operations were eight and a half, five, and one and a half hours after the perforation.

Admitting, therefore, that the treatment demanded is early operative interference, the most important point—indeed, the vital point from the standpoint of prognosis—is the making of an early diagnosis. Given a patient in comparatively fair condition this is usually an easy matter; but it is extremely difficult, and may be impossible, when perforation occurs in a patient already profoundly toxic from the disease, with obtunded sensorium and distended abdomen.

It is well to remember always that the symptoms of perforation are not the symptoms of the resulting peritonitis. These latter are plain enough and easy enough to diagnose, but if waited for the case is well-nigh hopelessly lost.

The most constant symptom of perforation is pain. Armstrong differentiates the pain of perforation from that of colic by its having associated with it local tenderness, rigidity of the abdominal muscles, and a change in type of respiration from abdominal to thoracic. With perforations which leak slowly and whose symptoms come on insidiously, he lays special stress on the persistence of a *little* pain, a *little* tenderness, and a *little* rigidity, and he thinks these cases ought to be submitted to exploration. A change in the pulse-rate and temperature, and a leucocytosis may be absent or present and therefore are of no special value. Perforation usually occurs late in the second or early in the third week, but may occur at other times; this then is the time when speciel vigilance should be exercised. Although most observers record that perforation is by far most common in the cases of severe type, it has been my fortune to meet it most often in mild and walking cases, or in those well advanced in convalescence. For this reason I think it unwise to give a positively favorable prognosis until the patient has returned to perfect health.

The operation has for its object, primarily, to close the leak in the intestinal canal, and, secondarily, to rid the peritoneal cavity of the septic material by which it has been invaded.

As to the technic, there is a good deal of difference. Concerning the question of local or general anesthesia, Murphy of Chicago advocates ether narcosis, for the reason that he can operate more quickly. Armstrong uses ether in patients who are in fairly good condition, and local anesthesia only in those with obtunded sensorium due to toxemia or nephritis. Hayes in all of his cases used local anesthesia, as did also Cushing.

Shall the peritoneal cavity be douched out in cases with widespread infection and no adhesions? This has also been variously answered. Under these circumstances the procedure of thorough washing out with more or less evisceration, sufficient to make as perfect a toilet of the peritoneum as possible, has been advocated very generally. Murphy of Chicago, however, in a recent paper published in April of this year, questions the propriety of this, and claims that it is not only not necessary but even tends to kill the patient. Quoting from his paper, he says "the results of a general peritoneal infection depend (among other things which he mentions) upon the tension under which the products of infection are retained in the peritoneal cavity; that the greater the pressure under which the pus is held in these acute conditions, the more rapid the absorption." He compares pus in the peritoneum with pus in the cellular tissues elsewhere in the body, and calls attention to the clinical fact that when tension is relieved in an ordinary abscess the symptoms promptly subside, although the cavity is not emptied of pus by any means.

He therefore concludes that irrigation is no more necessary in the peritoneal cavity than in circumscribed suppuration in other tissues. Not being necessary he considers the entailed manipulation of the intestine and the prolonged time of operation as factors which tend to kill the patient. He reports 6 cases of diffuse peritonitis, 1 due to perforation of a typhoid ulcer and 5 due to perforation of the appendix, all of which recovered. Although his results in this series are truly wonderful, still I believe they occurred in spite of, and not because of, his technic in this particular. In the first place we know clinically that fatal peritonitis often occurs in abdominal operations where the cavity has been drained and where, therefore, there can be no increase of tension. In fact it is this liability to contaminate which has led so largely to the abandonment of drainage as a routine procedure in clean cases. Again, inflamed peritoneal surfaces quickly form adhesions and in this way many circumscribed pockets of pus may be formed which will not be emptied unless the coils of intestine are separated. In these, evidently, the tension will not be relieved, and from them, therefore, absorption must continue. For these reasons alone I cannot convince myself that his method is good, and I feel sure that it will cost lives which might be saved.

On the other hand, however, it is equally certain that rapidity of operation is also absolutely essential, especially in those cases which are already profoundly toxic from the typhoid poison.

A good deal must be left to the judgment of the operator in the individual case, and it may be extremely difficult to decide just how much to do or to leave undone.

In conclusion I would summarize as important the following:

1. That perforated typhoid ulcer is amenable *only* to surgical treatment.
2. That the prognosis largely rests on the shortness of the interval between the time of the perforation and its closure.
3. That, therefore, early diagnosis is the keynote to the situation.
4. That rapidity in operating enhances the chance of recovery, but that as thorough cleansing of the peritoneal cavity as the patient's condition will warrant is possibly the best technic.
5. That drainage is necessary in the vast majority of cases.
6. That elevation of the head and trunk (Fowler's position) is advantageous, since it tends to gravitate the pus to the least dangerous part of the peritoneum.
7. That general anesthesia may be used in cases in good condition, and is preferable in young children.

THE COMMON MIND: HAS IT AN EXISTENCE? AND TO WHAT EXTENT CAN IT BE DEPENDED UPON IN THE DISCUSSION OF PUBLIC QUESTIONS?*

By Edward J. Brown, M. D.

MINNEAPOLIS

The common mind is the mind capable of recognizing easily recognizable facts. Such a mind recognizes the fact that universal laws are universal in their application. If such a mind is told that all laws have their exceptions, it will reply that apparent exceptions simply prove that the law is not allowed free course. Honesty as the only sound policy and freedom as every man's right within the limits of not infringing upon others rights, with fair play as a necessary corollary, are among the universal facts which such a mind recognizes and insists upon. With a long base-line of knowledge such a mind is an effective agent for good. Such in the aggregate and composite is the mind of Lincoln's common people. "You can fool all of them some of the time; but you cannot fool all of them all the time." While you can fool all of them some of the time, you cannot buy all of them any of the time. There are times when the great mind of the common people, as measured by majorities, is overwhelmed by sophistries, and seduced from the paths of righteousness, as the Anglo-Saxon race has been seduced of late by the blandishments of imperialism, but the great heart and conscience of the common people is all right, and so, in the long run, is the common mind.

During the late session of the Minnesota legislature, I learned one morning that the osteopathic bill was being promoted by an acquaintance who was a member of that body, and I at once addressed him, expressing my surprise and disappointment that a graduate of old Dartmouth, who had lately listened to President Tucker's eloquent talk on the common mind, could support a proposition to legalize a system of healing which was simply a *mixture of massage, hypnotic suggestion, and fraud.* His defense fell so far short of being reasonable as to serve as a sad damper to my enthusiasm for the university training as a means of developing the common mind.

The Journal of The American Medical Association (Jan. 3, 1903) contained a long and interesting letter from Dr. Robt. T. Gillmore, of Chicago, discussing the unethical conduct of certain distinguished consultants. The writer had been for some years the family physician in a well-to-do-family. For a persistent uterine hemorrhage in the case of the mother, he made an examination, discovered cancer, and urged immediate operation, which he agreed to do for one hundred dollars. At the request of the family he telephoned a noted surgeon to see the case in consultation. The noted surgeon, after the consultation, deliberately stole the case, and performed the hysterectomy for forty dollars. The letter was highly entertaining, but contained nothing more practical than the suggestion of a professorship of ethics in our medical schools. Not being satisfied with such disposal of such specific charges as set forth, I ventured to address the editor of the Journal, expressing the opinion that Dr. Gillmore's plain duty to the profession was to prosecute the offending surgeon in his county society, and that one such prosecution would do more to reform the practice of "eminent" surgeons than any number of ethical discussions. The letter was returned with the memorandum that it was too harsh for publication. The editor's interest in medical ethics seems to have been academic rather than practical. To the common mind it would appear that a Kentucky community which refuses to punish arson and murder; a Minnesota community in which a jury can safely acquit a confessed murderer on the score of drunkenness; and a profession which either ignores or condones the most flagrant offenses against its ethical principles, are equally lacking in those qualities which command the respect and confidence of honest men.

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*Read before the Minnesota State Medical Society, June 17-19, 1903.

A well educated young physician lately admitted to me that he would be willing to send a case requiring massage to an osteopath, and the osteopaths of our city claim that our most prominent physicians do send them cases. The arrangement is probably mutual, and possibly explains the asserted fact that there was practically no opposition to the passage of the osteopathic bill. My well educated young physician also admitted his willingness to send a case requiring suggestive therapeutics to a homeopathist or Christian scientist. The idea that such a course involved moral dishonesty and scientific treason did not seem to impress him.

I have lately attended the funeral of an old and esteemed friend, a man who in his old age in consequence of financial reverses, with an invalid wife and blind daughter to support, became an advertising "quack." I would rather have that man's reputation here, and his reward hereafter, than that of many so-called leaders of the profession, men who have forced themselves into prominence by buying, begging, or stealing their professorships or other means of self-aggrandizement.

A legal gentleman who heard the late address of Mr. James B. Dill before the students of the State University, on "Success," remarked that success was evidently thought to be the engineering of great schemes and leaving all detail work to others. Much of our benevolent work is constructed on that scheme. A great professor is the head of a free dispensary, but he is seldom seen there unless some spectacular surgery is required. Another man suddenly blossoms out as a philanthropist, and insists upon the necessity of certain physical examinations of school children. He is willing to do the exhausting work of instructing the teachers, and the latter, who have very little work to do, are expected to make the examinations. When this philanthropic scheme had accomplished its purpose in a certain town, and fallen into "innocuous desuetude," the county medical society was requested to give its approval to a proposed examining board, made up of competent practitioners, who were willing to earn their glory by doing practical work. A few of our distinguished professors of ophthalmology at once attacked the proposition with all the zeal that is usually shown by the possessors of protected interests when they imagine their graft is threatened, and with the aid of their friends in the profession and on the school board, the proposition was effectually killed. I have seen Professor Hirshberg leave his crowded clinic, jump into a carriage, and drive off to a public school, to personally examine the pupils' eyes, but *our* professors are too busy. They were anxious to introduce the system to the teachers of the country schools for the mere pittance of fifty dollars per day, and they probably could have been induced to continue the spectacular and lucrative work of *lecturing* to the city teachers; but they frowned upon the proposition that the half dozen competent men who were willing to engage in the practical work of examining the children should be allowed to do so. There was probably sufficient community of interest and, at all events, of sympathy in the county society to endorse their determination to prevent any examination of the children except by the teachers. There was evidence of the common mind, the ideal, the altruistic, the transcendental.

After many years the revisionists have at last captured the American Medical Association, emasculated its code of ethics, and are now ready to consult with homeopaths, osteopaths, Christian scientists, and any other sectarians who desire their aid in exploiting the general public. The new code is a daisy. The revisionists have always condemned the old code as unnecessarily entering into details; but the new descends to the depths of assuming that educated physicians need to be told that buying and selling patients is derogatory to professional honor.

The highly educated young physician whom I have mentioned, declared to me his confident belief that physicians average well in character with the rest of the public, and he seemed rather hurt at my suggestion that they ought to be a great deal better than the general public. To put the matter frankly, a physician who only averages with the general public, even the general public with which he assumes social equality, is so far beneath the standard as to be worthy only of contempt. The clergyman who is rated as being only up to the standard of his social class, is rightly looked upon by intelligent men everywhere as a very poor specimen. Much more is that true of the educated physician. There is much in the training and environment of the average clergyman that tends to render him a subservient follower of authority. The training and the associations of the physician, on the other hand, are favorable to devout belief in the universal and everlasting principles which have appealed to true men everywhere in all ages. When, then, men come into an inheritance of traditions such as form the glory of our profession, and into a training and environment so favorable to all that is manly and noble and devout, and descend to the level of the degenerate commercialism and politics of the day, how can a self-respecting member of the profession keep silent? The great majority of physicians have been more democratic in their sympathies and more independent of party lines than the members of the other learned professions, and there is every reason why men who in the main are opposed to monopoly and special privilege and corruption in political and civil life, should be aroused to the importance of securing equal rights for all members of their own profession. An editorial writer in the New York Medical Record, a few years ago, frankly stated that no man had any business in the medical profession unless he had wealth or was willing to marry a rich wife, as though the profession were not already sufficiently cursed with degeneracy.

The commendable efforts made by our State University to raise its standard in the medical school are very gratifying, and there is reason to hope that men with so long a base-line as will be given by a six years' university training, will have enough of the common mind to become valuable citizens instead of a menace to society. It is unfortunate, however, that competition for students should lead to a modification of the plan which the best friends of the university had hoped would be carried out, namely, an entrance requirement of a full bachelor's degree in arts or science. It is furthermore to be hoped that the time may soon come when the possession of a professorship in one of our state universities may not carry with it the suspicion of having been secured by political or commercial methods. The self-respecting and intelligent proposition on the part of the State University to teach homeopathy by a teacher in the regular school instead of supporting a large body of sectarians of the homeopathic persuasion, and after a few years other bodies of osteopaths and Christian scientists, should appeal to every honest man who is willing to have his own and every other man's principles stand on their own bottom.

In conclusion, I wish to mention two very encouraging rays of light, which have come onto the medical horizon. In Alabama the lately secured medical practice act declares that "an applicant for a certificate of qualification to treat diseases of human beings by any system whatsoever" shall meet certain conditions, and that the possessor of such certificate "shall be entitled to treat any and all diseases in this State in any manner that he may deem best." Nothing could be much simpler than that, and it is probable that lawyers and judges will find it difficult to overturn so clear a proposition. If our numerous medical practice laws had more horse-sense in them or, in polite parlance, the common mind, they would be far more useful.

The Journal of the American Medical Association, of March 9, 1903, contains a decision of the supreme court of Kansas, defining the power of a board to revoke license for immoral conduct, which contains so much common sense that I must quote a few sentences, with the hope that the whole decision will be widely read: "The provisions of the act creating the board," the court says, "plainly indicate that such investigation (as involved in charges of immoral conduct) was not intended to be carried on in observance of the technical rules adopted by courts of law. These men are not learned in the science of law, and to require of a board thus composed that its investigations should be conducted in conformity to the technical rules of a common law court would at once disqualify it from making any investigation. It is subversive of the morals of the people and degrading to the medical profession for the state to clothe a grossly immoral man with authority to enter the homes of her citizens in the capacity of a physician. It was the intention of the legislature to adopt a summary proceeding by which the morals of the people and the dignity of the profession might be protected against such a possibility, without being embarrassed by the technical rules of proceedings at law. The revocation of a license to practice medicine, for any of the reasons mentioned in the statute, was not intended to be, nor does it operate as, a punishment, but as a protection to the citizens of the state. Such requirements go to his qualifications, and where the qualification imposed is reasonable, one has no right to complain that he is deprived of the right to practice his profession, because he has not conformed to such reasonable regulations."

I thank God for a state where there is so much evidence, not only among the populist farmers, but in the supreme court, of that common mind which shows man's relation to the Eternal.

To answer the query of our title then, we must admit that the common mind has an existence, and that it is a dependable factor in communities that have not been absolutely debauched by the unrestricted reign of commercialism.

THE ASEPTIC CONSCIENCE IN OBSTETRIC PRACTICE

In no department of surgical work is asepsis more essential than in the practice of obstetrics. We are accustomed to regard the management of normal labor as medical rather than surgical, but this is a misconception. The whole duty of the accoucheur other than that which is purely advisory, is surgical; that is, any manual assistance or interference during labor is essentially a surgical procedure. The opportunities for infection from the surroundings are even greater than they are in the management of ordinary surgical cases. These facts are recognized by all, but anyone who has observed the obstetric work of the average physician knows that it is not appreciated and carried out in actual practice. Towels, sheets, and dressings are rarely ordered sterilized, and the merest pretense at sterilization of hands and instruments suffices—both are repeatedly permitted during the operation to come into contact with bed-clothes, person of patient, or other unsterilized objects. Like other surgical work accouchement can never be conducted under as favorable circumstances at the home as in the hospital. Yet with a trained nurse it may be made practically as safe, but it cannot be until the aseptic conscience has been developed in both physician and nurse so that every possible precaution will be conscientiously carried out. Except in extraordinary circumstances the physician should refrain from doing anything until he can be properly prepared. The use of rubber gloves has been found a very great advantage in securing aseptic management of labor. They are not only a safeguard against sepsis, but are less irritating than the bare hand. The writer recently heard an old practitioner, accustomed to using methods in vogue several years ago, probably when he graduated, congratulating himself that in attending fifteen hundred labors he had had but three deaths from puerperal sepsis. He was inclined to regard strenuous efforts at securing asepsis as unnecessary refinement, failing to realize that his own record condemned his careless methods. One death in five hundred, under the most favorable home environment, seemed to have no terrors for him; notwithstanding aseptic precautions properly carried out furnish hospital records of more than three thousand consecutive cases of labor without a death.

This phase of obstetric practice should be the physician's constant care. In time anything less than surgical cleanliness will disturb his conscience to such an extent that he will always seek to secure it. He will then have the aseptic conscience which insists upon the utilization of all modern knowledge and means of securing the same safety, as nearly as may be, in the home that can be had in maternity hospitals. It is the conscience that is satisfied with nothing short of strict surgical cleanliness in the lying-in room—that feels that asepsis is the absolute requisite for the attainment of passable results and demands it in all forms of obstetric practice, normal and operative, as constantly and universally as in gynecology and general surgery.—Columbus Med. Jour.

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THE MASTER MIND

The Lancet feels called upon to comment upon a paper entitled "The Common Mind," read before the recent meeting of the Minnesota Medical Society and printed in this issue.

The paper is printed without revision or the use of the blue pencil even though it contains a slur upon the American Medical Association, and insinuates that members of the Hennepin County Medical Society are insincere and untrustworthy.

When a member of the county and state societies and of the American Medical Association makes an attack upon bodies of representative medical men who are striving to broaden and elevate the standard of medicine, and who give their valuable time and attention to the earnest consideration of the advancement of medical science and education, the critic should be just and fair, not narrow in his carping or given to misrepresentation.

The men who have given a great deal of study to the revision of the code, which serves as a guide to medical men, are progressive and conservative in their efforts to place the man of medicine upon a higher standard of honor and to enlarge his usefulness in the community. The critic who implies that the revision of the code is for commercial gain has not grasped the high-minded principles it contains; his interpretation is faulty and not up to the view-point of the "common mind."

The existence of the quack, the osteopath, and the Christian Scientist; the act of the "noted" surgeon who steals a case from a fellow surgeon and performs an operation for forty dollars; and the presence in our midst of the man who lectures in a medical school or gives his time to a dispensary or lectures to teachers, do not create a condition that should give rise to grief. There are many other more interesting things in medicine than the petty trifles that are bound to exist as long as the world shall last. These worries wax and fatten on attention and criticism, and atrophy when this form of nourishment is suspended.

The successful physician is usually the man who attends strictly to his own business, and refrains from intruding into the affairs of others; who speaks kindly of his fellow practitioner, whether he deserves it or not; who is studious and observant, and profits by his own and the experience of others; who is full of good cheer, and is competent to give wholesome advice. If all physicians belonged to this school the medical profession would be a mighty power, capable of engineering mighty plans for the good of the people, united and respected, free from unjust criticism, and possessed of more than a "common mind."

AN UNUSUAL MALPRACTICE SUIT

A suit for malpractice brought against a Minneapolis surgeon in the Hennepin County court contains a point of more than general interest. The surgeon was called upon to operate for a growth, the diagnosis of which was a matter of uncertainty. The operation was advised, and the patient consented. After the incision was made the growth was found to be of such a nature as to make a complete removal of the breast a necessity. The husband of the anesthetized woman could not be found at the time, and the surgeon, acting on his own responsibility, removed the gland. More than two years elapsed before the suit was commenced, and the contention that the plaintiff's case was barred by the statute of limitation is one for the courts to decide.

The main issue in this case raises an important legal question that has never been decided in a court of last resort, either in England or America; and the question is as to the right of a surgeon to extent an operation without the expressed consent of the patient.

In the case under consideration, a surgeon of the highest standing, undertook to remove a growth, which was discovered in the course of the operation to be a malignant cancer. In order to remove it, the breast of the patient was taken out.

The average person is thankful to be relieved of a cancer, and is too thankful for prolonged life or health to prosecute the man who performed the operation, even if he was not expressly authorized to do it. Diagnosis is not an exact science, and hence it is necessary for the surgeon to make an exploratory examination to determine the character of disease, and if, in his judgment, the disease is malignant and removable, and the life of the patient be thereby prolonged by a surgical operation, the surgeon assumes the responsibility of interference.

The law provides that the surgeon must use ordinary skill and care in his work. It does not demand of him such expert knowledge as to make him infallible. The law also takes into consideration the emergencies which must at times confront the surgeon in his work. He must then do what in his judgment is best under the existing circumstances. If a surgeon is employed to do a special operation, and finds it necessary to extend his field of exploration or removal, he may or may not be exceeding his rights under the contract, yet he proceeds without restoring the patient to consciousness to gain his consent.

The surgeon who uses good judgment, ordinary skill, care, and diligence in arriving at a conclusion and in carrying out an operation will not incur uncalled-for responsibilities.

A large number of surgical operations for the cure or relief of the patient are performed in which the surgeon is given great latitude, and the same skill and care are required whether the operation is a vital one or one in which relief only is obtained. There is no authority or rule governing the surgeon. The patient usually authorizes the operator to use his best judgment, and the majority are willing to abide the result. Whatever the operation, the consent of the patient must be obtained, yet a tacit consent is given by the patient when he presents himself for operation. As a further safeguard the surgeon should ask consent to do whatever in his judgment is best for the patient, if possible be allowed to extend the operation to meet possible contingencies. To protect himself from irresponsible parties or blackmailers, the contract for consent should be in writing and witnessed in proper form. Fees are lost or rebated, and damage suits threatened against surgeons who open the doors too wide or who fail to provide protection from unscrupulous parties. The surgeon is intimidated, and looses his fee rather than press his claim when the outcome is a matter of doubt.

When a patient waits more than two years before suing the surgeon for fancied wrongs, one is inclined to believe that failure to pay indebtedness, blackmail, or the advice of a grasping attorney is the root of the evil. To be on the safe side the surgeon should demand a written contract and his fee; and, to save himself much worry, time, and money, he should be insured.

The case mentioned below was promptly responded to by the Physicians' Defense Co., of Fort Wayne, Ind., which sent a man to investigate the merits of the suit, employed an attorney named by the surgeon, and advised the surgeon that he would be protected against all costs. In all probability the case will never be tried.

We print below as much of the brief as will be interesting.

COMPLAINT

The plaintiff complains of defendant and alleges:

1. That on the 31st day of July, 1900, plaintiff (Ada Nichols) was suffering from soreness in her left breast.

2. That she employed the defendant (Dr. George G. Eitel), who is a surgeon, as such surgeon, for a reasonable reward to be paid therefore, to make an incision in said left breast and to heal the same.

3. That on the 1st day of August, 1900, defendant placed plaintiff under the influence of either, and without her knowledge or consent and contrary to an agreement between plaintiff and defendant, and against her will, defendant willfully and wrongfully cut off and removed the plaintiff's entire left breast. That by reason of defendant's wrongful cutting off plaintiff's left breast, plaintiff was wounded, maimed and disfigured for life, and was made very sick, and has never since been able to do her household

work, nor work of any kind that requires ordinary physical exertion; that prior to the removal of her said breast she was a strong and healthy woman.

4. That plaintiff has never recovered from the shock and pain of the knowledge of the cutting off of her said left breast; that she ever since has been and now is sick therefrom; that she has suffered, and continues to suffer, intense pain of mind and body therefrom; that she verily believes that she never will recover and always will suffer in mind and body from said wounding and maiming; that her left arm and hand are almost useless therefrom, and that she cannot raise her left hand above her head without great pain.

5. That she has been compelled to pay and did pay out the sum of five hundred dollars ($500.00) expense for medical services, nursing, and treatment; that she is compelled to hire her household work done, to her damage in the sum of ten thousand dollars ($10,000.00), and all to her great damage in the sum of ten thousand and five hundred ($10,500.00) dollars. Wherefore plaintiff demands judgment against the defendant for the sum of ten thousand five hundred dollars ($10,500.00), and her costs and disbursements in this action.

ANSWER

For answer to the complaint of the plaintiff in the above entitled action, defendant denies each and every allegation and thing therein contained, except as hereinafter expressly admitted or alleged.

1. The defendant admits that he now is, and at the time mentioned in the said complaint was, a surgeon, and that, at said time, plaintiff was suffering from soreness in her left breast.

2. Further answering defendant alleges that said soreness was caused by a cancer on plaintiff's left breast, and that, at the special instance and request of plaintiff, defendant, at the time mentioned in said complaint, removed said cancer by means of a surgical operation, which defendant performed in the regular and customary manner universally approved by skillful surgeons.

Defendant further alleges that plaintiff's cause of action set forth in her said complaint did not accrue within two years before the commencement of this action.

3. Wherefore defendant demands judgment that plaintiff take nothing by this action, and that defendant have his costs and disbursements herein.

CORRESPONDENCE

A VIENNA LETTER

Vienna, Austria, July 27, 1903.

Editor of The Northwestern Lancet:

Not many days ago while on his way to the morning Nothnagel clinic the writer was stopped by a medical man, evidently an American, with the following question: "Ar'n't you an American?" "Why, yes." "Well, shake! I'm from Georgia. I just came yesterday. All this morning I have been tramping over these hospital grounds trying to find out something about these clinics, and havn't made a bit of headway. I want to study here, but where to go and what to do I do not know."

These statements express the feeling of helplessness which comes over one when for the first time he walks through the big central gate of the Allgemeine Krankenhaus, and looks about him. The buildings of the great hospital extend on, Hof after Hof, in an apparently endless number. Crowds of men, women, patients, students, instructors, and visitors rush in and out of the main entrance not one of whom takes any interest in the new-comer. Where to go and what to do is certainly a puzzling question. There is no central bureau of information to which one may go and make inquiries. There is no university registrar to whom one can be directed, who will outline the work being done, and hand out a schedule of clinics then in session; and to whom one can say: "Here is my registration fee, I will take Prof. X's work in internal medicine, Dr. Y's work in operative surgery, etc." Nothing of this sort obtains in the courses of intruction offered to American medical students in Vienna.

The work open to Americans can be divided into two classes. In one class can be placed the regular undergraduate medical courses which are given to the German students studying for the degree of doctor of medicine. These courses continue from October to June during the college year, and cover all the subjects taught in the curriculum of our regular medical colleges. These clinics, while not open to American and foreign students, are nevertheless attended by them, and no objection is made by the authorities. They are for the most part lecture and amphitheatre clinics and cost the American student nothing.

The second and most important class of instruction is distinctively postgraduate, and covers every branch of clinical and scientific medicine and surgery. The university authorities have little or nothing to do with these courses. They are created, organized and supported by the foreign postgraduate students the majority of whom are our own countrymen. The material for this work is furnished by the hospital, and the instruction is given by the professors, instructors, and assistants upon its staff. A class in one of these courses is composed of ten men. The duration of the course is 25 consecutive hours, Sunday excepted, and costs each man about $10. In some laboratory, anatomical, and special operative courses the classes are smaller, and the fees higher.

These postgraduate courses are created in two ways.

Instructor X will have posted upon the various bulletin-boards of the hospital the following announcement: On Friday morning July 10, 1903, Dr. X will begin a course upon diseases of the lungs in ward 94, Neusser clinic. The course will be given daily from 10 to 11 a. m. for five weeks; fees for course 50 kroners ($10).

If now you wish a course in diseases of the lungs by this instructor you, and others who desire a like course, will present themselves at the time and place indicated in the announcement, and the class will be organized. In this way there is being continually offered to the postgraduate students large numbers of courses upon a great variety of subjects.

A second method by which courses originate is this: Ten men wish instruction in some particular line of work, for example, diseases of the stomach. They talk the matter over among themselves, and select some good assistant who has plenty of stomach material at his command to give the course. One of their number then interviews the assistant, and asks him if he is willing to give a course in this subject. This he is usually only too willing to do. The class is organized, and the work begun.

Some of the courses in the Vienna clinics in internal medicine, and other subjects as well, have been in existence so long that they are well established, and continue permanently from year to year without reorganization. Such clinics are those of Kovacs, Turck, Stijskal, and many others. In these courses, limited to ten men each, the places are often in great demand, with many names on the waiting list. When once a permanent place is secured in these courses it can be retained as long as the man owning it desires to hold it. In fact the place is his property. He can trade it to some one else for a like place in another course; he can sell it, though this is not often done; or he can give it to a friend temporily or permanently. Thus it is that most of the desirable places in the favorite clinics are held by the older postgraduates, and a new man must often wait some time before securing a place.

Every class has a so-called manager who is usually one of the older postgraduates. He collects the fees from the various members, and turns them over to the professor or instructor giving the course. He also keeps a record of the places, and sees that the rights of each man are faithfully preserved. When he leaves the clinic he makes out a record of the men holding places, and turns it over to some one of the older men in the course, who in turn becomes the manager.

It will thus be observed that the American postgraduate medical students in Vienna are the architects of their own courses. They create them, manage them, and maintain them. I use the term *American* students advisedly, because our countrymen outnumber the other nationalities five to one, and practically control the courses.

To an American coming for the first time to Vienna for medical study the writer would say: A month or two before you expect to start, write to some friend doing work here. State to him what kind of medical work you desire and when you expect to be in Vienna. If you have no such friend procure from some medical man in the United States a letter of introduction to some American doing work in the Vienna clinics. As soon as you arrive present this letter of introduction, and accept gratefully the assistance which you will surely receive. In no other way can you so speedily and satisfactorily get into the work. Letters of introduction to professors and assistance are of little value. It is the help of your own countrymen that you need, and will surely receive if you ask it in the proper spirit.

Geo. Douglas Head.

NEWS ITEMS

Dr. T. B. Francis has moved from Edgerton to Fairmont.

Dr. Geo. B. Moore, of Montgomery, has located at Northome.

Dr. A. G. Chadbourn announces that he will not leave Wabasso.

The new and well-equipped hospital at Heron Lake opened last month.

Dr. E. L. Cheney, of Two Harbors, has decided to locate in Duluth.

Dr. S. C. Brown, of Clinton, has sold his practice to Dr. Carl E. Johnson.

The physicians of Sibley county organized a county medical society last week.

Dr. G. A. Stevenson, of Albert Lea, has returned home from his European trip.

Dr. C. C. Walker, of Lamberton, has gone to California to locate.

Dr. Oscar Carlson, of Aberdeen, S. D., has gone to Illinois to reside.

St. Luke's Hospital of Aberdeen, S. D., will be enlarged to double its present capacity.

Dr. Stevens, a recent graduate of the Wisconsin University, has begun practice at Pipestone.

Work was begun last month on the construction of the new hospital building at Grafton, N. D.

Dr. J. B. Carman, of Erskine, was married last month to Miss Pauline B. Foster, of Minneapolis.

Dr. R. W. Patterson, a graduate of the Northwestern University, of Chicago, has located at Eagle Bend.

Dr. H. R. Dredge, of Belview, has sold his practice to Dr. Aldrich of Seaforth. Dr. Dredge will locate at Sandstone.

Dr. A. M. Randal, a recent graduate of Hamline, who has been practicing this summer at Eagle Bend, will locate elsewhere.

Dr. C. H. Norred, of Minneapolis, has succeeded Dr. Frank E. Bissell as surgeon to the Soldiers' Home of Minnesota, located in this city.

Dr. Frederick Smith, who has had charge of Dr. Pierson's practice at Austin during the summer, has received an appointment in the army, and has gone to Philadelphia.

The new medical practice act of South Dakota has reached the courts in a case against a travelling doctor, and there is danger that the whole law may be declared unconstitutional on technicalities.

Dr. L. W. Bacon died in Minneapolis last month at the age of 96. Dr. Bacon was a classmate of the poet Longfellow at Bowdoin in the class of '28. He had not been in practice for a number of years.

The annual meeting of the Southern Minnesota Medical Association met in Winona last month. The following officers were elected for the current year: President, Dr. C. Graham, Rochester; first vice-president, Dr. W. F. Milligan, Wabasha; second vice-president, Dr. F. W. Dimmitt, Red Wing; secretary and treasurer, Dr. W. T. Adams, Elgin.

ANNOUNCEMENT

The Minnesota State Board of Medical Examiners still have on hand copies of their Official Register, containing the names, addresses, etc., of all licensed physicians in the state. They will send this free to any who will remit five cents to pay the postage. The Lancet will publish the names of those passing the examination at future dates, and these names can be pasted in the register, thus keeping the list complete. For copies of the register, apply to the Secretary, Dr. C. J. Ringnell, Minneapolis.

FOR SALE

A rubber-tired covered Stanhope, which was made by Babcock and cost when new $225, is now for sale cheap, and is in good condition. Address Dr. F., care of The Lancet.

FOR SALE

I have an extra ophthalmometer, practically new, which I will sell for 50 per cent of its cost price. Address Dr. C. H. Kohler, 612 Pillsbury Bldg., Minneapolis.

PRACTICE FOR SALE

An established practice in a good country town, 45 miles from Minneapolis, worth about $3,000 a year. Residence, office and office furniture, three horses and buggies, can be bought cheap. The present occupant is leaving on account of ill health. Address Dr. J., care of The Lancet.

FOR SALE

A practice worth over $2,000 a year in a village of 2,500 in Southwestern Minnesota, will be sold, together with office furniture, a team of horses and a buggy, for $500. Address Dr. D., care of The Lancet.

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SOME PROBLEMS IN GYNECOLOGICAL SURGERY*

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MINNEAPOLIS

The operations devised for the cure of gynecological diseases are innumerable. There are new ones and modified old ones added each year. The lack of uniformity of method among operators is very noticeable. The most appropriate operation for each individual case is not always selected. The importance of certain preparatory treatment and after-care is frequently not recognized. The complications present in gynecological cases offer difficult problems in treatment and prognosis.

TABLE No. 1 COMPLICATIONS AND ASSOCIATED DISEASES

1. Laceration of Cervix.
2. Endometritis.
3. Fibroid of Uterus.
4. Misplacement.
5. Maglignant Growth.
6. Laceration of Perineum.
7. Salpingitis.
8. Adhesions.
9. Oöphoritis.
10. Abscess of Ovary.
11. Malignancy of Ovary.
12. Tumors and Cysts.
13. Adhesions of Ovary.
14. Prolapse.
15. Appendicitis.
16. Kidney Prolapse.
17. Gall-bladder Disease.
18. Cystitis.
19. Gastro-enteritis.
20. Hernia.
21. Hemorrhoids.
22. Fistulæ.
23. Neurasthenia.
24. Other General or Local Diseases, e. g., Gastroptosis and Enteroptosis, Etc.
25. Tubercular Peritonitis.
26. Hydronephrosis.
27 Urethritis.
28. Urethral Caruncle.

Table No. 1 shows the complications and associated diseases that gynecologists have to encounter. In looking over this table with diseases ranging from 1 to 28 and table No. 2, indicating the variety of special diseases of each organ, we can understand and appreciate the difficulty that may confront the surgeon in endeavoring to restore the patient to normal health.

On account of the frequency of these associated troubles, and the fact that a great number of women were not "cured," the so-called specialists in diseases of women are being forced to recognize the importance of these other lesions and include them in their work. The result is that few gynecologists remain. In their place are coming abdominal and general surgeons.

One of the mistakes has been that the gynecologists have been too ready to promise a cure by doing a certain operation, when, if they had but recognized all the associated lesions which were capable of producing referred pain, they would have been less sanguine of the results.

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*Read before the Minnesota State Medical Society, June 17-19, 1903.

TABLE NO. 2 VARIOUS DISEASES OF ORGANS

1—Ovary—	Cyst Inflammation Mal-position	Adhesions Pregnancy Abscess	Cirrhosis Malignancy Fibroid	Infection, Streptococcic " Gonorrheal. " Tubercular
2—Tube—	Mal-position Inflammation-simple " Gonorrheal	Cyst Pregnancy Hydroaslprinx	Adhesions Pus	Neopolasms-Benign. " Malignant.
3—Uterus—	Displacement Malignancy	Fibroid Metritis	Sub-involution Infection	Pregnancy Lac. Cervix.
4—Appendix—	Acute inflammation Sub-acute " Chronic "	Rupture Abscess Adhesions		
5—Sigmoid flexure—	Adhesions Stricture of	Fistula Ulcers Malignancy		
6—Intestines —	Adhesions to tube, " " ovary " " appendix,	Adhesions to bladder, " " uterus Piles, etc. Tuberculosis	Stricture Cancer Hernia Fistulæ	
7—Bladder—	Cystocele Tumors	Adhesions Fistulæ	Cystitis Stones	
8—Kidney—	Prolapse Neoplasms Stone	Hydronephrosis Adhesions	Nephritis " Tubercular	
9—Gall-Bladder—	Cholecystitis	Malignancy	Stones	
10—Broad Ligament—	Cysts Pregnancy	Neoplasms Varicocele	Infection	

The effect has been that some patients have become skeptical and refuse an operation which might bring great personal benefit. It is difficult for the surgeon to decide just what should be done, and the patient will less easily consent to an operation when all these associated lesions and complications are found out and explained.

An explanation of all the ills to a neurasthenic patient may be worse than useless. We should be careful not to promise an immediate restoration to health. The sufferer should have a fair understanding as regards the elements of time and the further treatment of her associated diseases before the best results are obtained. By a careful study of the individual's character and temperament in connection with her disease, we can best determine the prognosis. In some we can promise an absolute cure, in others an improved condition, and in a third class perhaps but little gain, and this is especially true of the neurotic, although it is frequently worth the attempt.

A true estimate of the relative importance of each disease or complication is essential. The prognosis depends upon this consideration and the ability of the surgeon to relieve the complaints in that order.

An anemic state of the patient and a low state of vitality with a history of partial or complete invalidism from chronic suppurative processes within the abdomen or pelvis, may preclude the possibility of an immediate operation, and make an operation at any time hazardous. Patients with a low percentage of hemoglobin do not take the anesthetic or stand an operation well. The recognition of the unpreparedness of the patient for the operation, and therefore the adoption of a system of general and local toning up determines our success. Polak attributes many of his failures to insufficient time for the preparation of the patient for an operation. Dr. Crile has followed out a number of valuable experiments which show the possibility of operating upon weak individuals with much less risk. He prevents loss of body-heat, and maintains equal blood-pressure by means of a pneumatic suit, and shows that it is not necessary to have the patient in the recumbent position so long as even, constant pressure of sufficient force is exerted upon the peripheral blood-vessels.

PLAN OF OPERATION.—A most important problem to solve is the plan of operation. How may we in a single operation best include the most troublesome lesions, and how may we most rapidly perform such operations? Time is an important element, but a thorough and careful surgeon is more to be trusted than the rapid operator. Both qualities are important for the most successful work.

There are so many operations devised for each surgical complaint that an operator is sometimes at a loss to know which to select, or what plan to adopt that is best suited to the case. There has been too much routine surgery in the past. We have tried to make the individual case fit the operation and have not modified our course so as to secure the most desirable and lasting results. For instance, there are certain forms of trouble, such as retrodisplacement of the uterus accompanied by a disease of the adnexa, or a pathological state of other intra-abdominal organs. How are we to perform an operation to include all of these organs and remove the disease? Shall we do an Alexander's for the retrodisplacement with a preliminary post-vaginal to break up the adhesions in order to bring the uterus up into place? Or shall we make an incision large enough at Alexander's point of attack to explore the abdomen? Or would it be more satisfactory to make a median incision, and thereby include all of the organs to be explored and make a ventrosuspension?

There are objections to both the typical Alexander's and the ventrosuspension. Both operations have their field of usefulness, and when one is indicated the other is contra-indicated. A modification of one or the other at times can be made with great benefit. In a few words the typical Alexander's is indicated only where there is a retrodisplaced uterus with no disease of the adnexa, appendix, or intestine, and where there is no fibroid or other growth at the body of the uterus.

A Ferguson's modification of Alexander's may be done in younger women, who are apt to have children. A ventrosuspension is indicated in cases as above mentioned, viz., where there is disease of the adnexa, adhesions, bowel complications, or appendiceal trouble and retrodisplacement. Especially does this apply to women who are near the menopause.

When a case comes before us with an indefinite history of gall-bladder disease, appendicitis, etc., in whom we find the right kidney prolapsed to the 2d or 3d degree, and who is subject to what seems to be attacks of renal colic or Dietel's crisis, and in whom we find some possible trouble with the right ovary or tube, what should be our plan of operation? Some will conclude at once to make a median incision, remove the appendix, explore the abdominal cavity, and do what other surgical work may be necessary upon the adnexa. It seems to me that when the preponderance of evidence points to a right-sided disease, for example, the gall-bladder, kidney, appendix, and possibly the ovary, a lumbar incision may do the most good, for by that route we are able to treat almost any of the gall-bladder complications, remove the appendix, explore the ovary and tube, or fix the kidney in position at times. Few surgeons choose this route for removing the appendix, but it can be done with comparative ease and safety. We reduce the kidney to a degree of quietude, overcome the attacks of so-called biliousness, are certain of accomplishing some good if there is a gall-bladder disease, and the appendix, which is frequently inflamed, diseased, or painful in cases of prolapsed kidney, is not allowed to escape.

TUBERCULAR PERITONITIS.—One of the most intricate problems which the abdominal surgeon has to deal with, is a tubercular peritonitis of the plastic variety. In many of these cases there exists an inflammation around the appendix, which results in constriction of that organ; therefore the symptoms produced are necessarily those of an attack of appendicitis. There are frequently found cysts of one or of both ovaries, some quite large, or there may be adhesions to the tubes, especially at the fimbriated extremity.

When these enumerated complications occur, the puzzle is one which is hard to solve. The question comes up, what organ or tissue needs particular attention? How shall we remove the offending appendix without producing more harm than good? How shall we get at cystic ovaries and diseased tubes without tearing a hole through the bowel tunic? Personally, I do not believe it does any good to sever many adhesions, unless for the purpose of getting at and removing some special tissue that is causing great distress. And if it is necessary to go through many areas of adhesions in order to get at cysts, such as cystic ovaries, it had better be through a small opening between the folds of the intestine to rupture the cyst walls and empty their contents, rather than do the more radical operation, viz., that of ablation of the tubes and ovaries. It is better in some instances to trust to nature's barriers against infection around the diseased appendix than to remove that organ at the time.

Dysmenorrhea.—There exists a class of cases which perhaps the gynecologist meets more frequently than others, viz., that of dysmenorrhea. There are many women who have been treated for months or years, locally and constitutionally, with all sorts of advice as to hygiene, habits, clothing, etc., without success. Some of them have stenosis of the internal os, elongated portio vaginalis, displacement, endometritis, etc. When these supposed causes are removed by operation or other means the same complaint may remain. The pain and discomfort is frequently intermenstrual as well. In some we are able to determine a slight prolapse and possibly an enlargement of the ovaries, and many are not cured until a laparotomy is performed. We find upon exploration enlarged and often cystic ovaries, some with a much thickened tunica albuginea or a sclerotic condition. The question arises, what shall we do for these sufferers? Experience teaches one that we should follow the conservative plan by resecting the ovary, and dissecting out all the cysts possible. This can be done easily and rapidly. However, when these cysts involve the whole ovarian tissue, especially the hilum, an oöphorectomy alone gives lasting results.

The thickened covering may be peeled off in places. The resected and prolapsed organs should be stitched on a circulatory level, otherwise they swell, and become prolapsed and painful again. This rule is applicable to other organs also; e. g., the uterus when the broad ligament support is withdrawn on account of an oöphorectomy and salpingectomy, in which case a ventrosuspension should be made.

We are surprised at the results obtained in some cases of dysmenorrhea due to enlarged prolapsed cystic or hypertrophied ovaries when the ovaries are resected. With a general improvement in hygienic treatment, modes of living, dress, diet, and habits of the patient, these cases will thereafter rarely complain. They are able to prevent trouble returning because of the schooling received during and subsequent to the surgical work. Other cases may have adherent, thickened, and enlarged tubes. The proper recognition of the true pathology should determine one's course of procedure. If the outer portion of the tube alone is affected because of the prolapsed condition having produced a kink in the tube and the inner half patulous and healthy, it may be resected and the ostium abdominale stitched to the ovary. All kinds of complications are frequently met with when a pyosalpinx has existed; such as adhesions of the intestinal coils, appendicitis, etc.

The symptoms may be complex and varied, and so demand special consideration. To follow about the rules laid down for a tubercular peritonitis or an appendicial inflammation is satisfactory.

Nervous System.—With all of the complications with which the gynecologist has to deal, it is necessary to take into consideration the state of health of the nervous system as well. Not a few of the so-called hysterical patients could have avoided some of their nervous instability, if the physician or surgeon could have seen them and could have early recognized the cause of the oncoming complaint. In a number the trouble may be hereditary. However, any acquired physical ailment of the pelvic organs that is left untreated, favors the development of such instability.

Fibroids.—When a fibroid of the uterus exists, it is often a matter of one's judgment whether or not a hysterectomy should be performed. It depends upon the individual skill of the surgeon in doing conservative work. Hysterectomy is undoubtedly the easiest and quickest operation to perform when large fibroids exist; however, the subserous and even the interstitial fibroid can be removed with ease and rapidity by most operators, and should be the preferred operation. When a large submucous fibroid exists there is present a continual risk of infection and hemorrhage unless a hysterectomy is done. As these cases give us the most trouble on account of the above named complaints, hysterectomy should be the operation of choice unless the fibroid is small and can be thoroughly removed by enucleation.

Extra-Uterine Pregnancy.—When a diagnosis of extra-uterine pregnancy is made, if of recent date, few surgeons of to-day will select any other route than the abdominal, for by that avenue time is saved, the true condition of organs may be recognized, and the bleeding vessels are more easily discovered and ligated, and the fetus removed.

Where there exists an old extra-uterine pregnancy that has ruptured and become infected, a vaginal drain gives a better opportunity to do safe and conservative work. Hemorrhage is not so prominent a symptom in these cases.

DRAINAGE.—An important feature of abdominal and pelvic work in the female is that of drainage. When it is possible to drain any surface where there is apt to be an accumulation of infectious matter—blood or serum of any great amount—a drain is helpful, and not harmful, if placed at the lowest point,—in the vagina, if possible. When there is an accumulation of thickened pus in the pelvis, the best drain is made out of single tubing with two opposite slits near one end, the end split above and between these slits, and the two sides reversed and passed through these respective slits. This gives us a T drain, which will stay in place, and it thoroughly empties the pocket which may be irrigated through the drain daily, if necessary. A cigarette drain passed through a stab wound in the abdominal wall to one side or the other for serum or thin pus, or a rubber-tube drain encircled with gauze and protective tissue outside in cases with thick pus is best. This practice is eminently satisfactory in wounds above the pubes.

THE PERITONEUM.—The toilet of the peritoneum has been a neglected part of the work with many operators.

It is frequently a question of the strength and condition of our patient, whether we shall take the extra time to thoroughly cover up all raw surfaces to avoid subsequent adhesions or stitch omental grafts around a weak intestinal wall to prevent infection and peritonitis. After the main object of our operation has been achieved, viz., the removal of an offending tube, ovary, or a fibroid, we may be in haste to close up the abdomen. A failure to relieve our patient of suffering can often be attributed to this neglect, and therefore this part of the work should be in all possible cases as closely and carefully attended to as the strength and endurance of the patient will permit. Few patients are willing to go through the ordeal of an operation just to swap symptoms; they are anxious to avoid pain and invalidism.

POST-OPERATIVE CARE.—One of the most important questions is regarding the subsequent care of patients. What should be our method in order to lessen pain, thirst, shock, prevent complications, and hasten our patient's convalescence? After nearly all abdominal sections, the use of the pneumonia jacket and hot-water bags maintains surface heat making chest disease and shock less likely. Magnesium sulphate and glycerine enemas repeated until there is a thorough evacuation of the bowels, followed by a saline enema, will accomplish three important things:

1. It will lessen thirst by supplying some fluid for the depleted tissues.

2. It will lessen gas-distention, and therefore relieve pain, and avoid stitch-tension and necrosis.

3. It will lessen the possibility of shock by supplying the necessary fluids and heat.

LAY ADVICE TO RECENT GRADUATES IN MEDICINE

In a recent editorial in the Outlook are some timely bits of advice to recent college graduates, one of which is intended for graduates in medicine. After giving some sound advice to theological students, the writer goes on to say:

"Or you are going to practice medicine. If your patients were all reasonable men and women, your task would be easy; but they are not. Even in their best estate they are not all reasonable men and women, and you will have to deal with them when they are not in their best estate, but are morbid. You will have to deal with patients who throw your medicine out of the window, and still expect you to cure them; in one house with a mother busy with other things and careless of the sick child; in another house with a mother whose weak and tearful sympathy does much to negative the influence of your presence and the effect of your medicine. It it not enough for you to know physiognomy and anatomy and therapeutics; not enough for you to know what your medical school has told you; you must know men and women—their physical constitutions, their mental and moral constitutions. You must understand them—their life, their narrownesses, their prejudices, their unreasonableness. You must see into them that you may minister to them."

THE SURGICAL PROSPECT OF GASTRIC CANCER*

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MINNEAPOLIS

If the surgical cure of gastric cancer is not yet admitted by all, it is from ignorance. It is a cancer more curable than that of the breast, or that of the tongue, because it is a cancer of slow evolution. Thus assert Ferrier and Hartmann in their monograph "Chirurgie de l'Estomach," Paris, 1899. A further reason for placing carcinoma ventriculi among the operable malignant diseases, is that in many instances death follows, not from the malignancy of the growth, but because the local lesion causes such troubles of nutrition that life is impossible.

It is now nearly twenty years since the writer observed in Billroth's clinic some of the pioneer work in this field. Two years before, i. e., in November, 1880, Billroth had performed the first successful pylorectomy for cancer. In this early period the mortality was from 50 to 70 per cent; recurrence with few exceptions was early; and the cures, i. e., those living without evidences of recurrence after three years, were rare. In short, the results were very like those of the pioneer efforts at surgical treatment of cancer in other organs, with a particularly heavy mortality. It was probably this fearful early mortality and the difficulties of timely diagnosis, rather than any lack of faith in its rationale, that has so long retarded the popularization of the surgical treatment of gastric cancer.

During these twenty years many things have transpired. Abdominal diseases have been discovered, and practically conquered so to speak; and after taking up the diseases of the other abdominal viscera pretty thoroughly surgeons are returning to the stomach much better equipped for practical solution of this difficult problem. Such a feat as total gastrectomy, first achieved in 1897, while not without interest, especially in its physiologic aspects, has added little to the solution. It is not in such extensive carcinomata that cure is to be sought surgically in the stomach or elsewhere. As unsatisfactory as the surgery of malignant disease in general and of the stomach or elsewhere. As unsatisfactory as the surgery of malignant disease in general and of the stomach in particular yet remains, it would seem that our point of view has been greatly changed and much improved by many lesser and indirect sidelights thrown upon the subject during recent years. In the first place both abdominal technic and differential diagnosis have been immensely improved during these decades. Gastro-enterostomy, early much in vogue as a palliative operation in gastric cancer, is practically obsolete in that disease, but has won a vastly greater and more important place in ulcer, the other common gastric disorder of surgical importance. The profession is awakening to the importance of surgery in gastric and gall-bladder diseases, and to the discovery, one might almost say, of gastric ulcer as an important surgical disorder. Finally, the modern views of the relation of gastric ulcer to carcinoma can scarcely fail to modify our theories and practice in reference to gastric cancer.

If it is rational to operate carcinomata of the breast, uterus, rectum, tongue, etc., as we all do, it is yet more logical to look upon cancer of the stomach as a surgical disease. In the latter, as in the former, it will scarcely be possible to successfully treat all cases. Certain cancers of rapid growth, especially in young subjects, defy practical surgical treatment, in whatever location. The universal experience is that real success in the cure of cancer lies in the complete and wide removal of precancerous lesions, of those in the early transitional stage, or the incipient stages of true malignant neoplasms. As soon as the lymphatic system is invaded, even in epithelioma of the lower lip, surgical cure is exceedingly rare and always uncertain. It is just in connection with this fact that recent developments give us most hope in the future of surgery of gastric carcinoma.

All recent observers admit a more or less marked relation between ulcer and cancer of the stomach. Just how large a percentage of gastric ulcers soon or late undergo malignant transformation is as yet unknown. That many do is proven beyond doubt. The estimates of various observers range from 5 per cent to approximately 100 per cent. The researches of Gustaf Futterer, who regards ulcer as a strong factor in carcinoma, are particularly important. Dr. Christopher Graham, whose work is especially valuable as one of the few internists who have added to a large clinical experience a wide observation at the operating-table, found 88 per cent of his cancer cases gave a history of preceding ulcer extending over from one to fifteen years, showing that in a very large proportion clear indications for surgical interference existed in the precancerous stage, when radical removal would have offered quite certain prospects of permanent cure. The same observer finds that 89.5 per cent of ulcers and 83 per cent of cancers are located in the pyloric portion of the stomach; i. e., in that portion of the stomach lying to the right of a line dropped from the esophagus to the greater curvature. This portion is termed by D. W. J. Mayo the ulcer- and cancer-bearing portion of the stomach.

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*Read before the Minnesota State Medical Society, June 17-19, 1903.

Two fatal errors of the average practitioner have rendered the surgery of malignant disease almost futile, viz., late diagnosis and inefficient removal. The lip and face have long been the most favorable locations for the surgical cure of carcinoma, simply because the pre-cancerous lesions are open to observation, and, as a rule, however, not without exceptions, from several months' to several years' time is given for the patient and his medical advisors to arrive at a diagnosis and to act before malignancy becomes well established. Most of these lesions are attacked before they become cancerous or at least in the incipient stage of the process, and as a result a very high percentage of cures follow, a percentage which might be still further greatly improved but for the very inefficient removals so often primarily practiced. The insignificance of the lesion leads the patient and his ordinary advisor to look upon its eradication as a trivial matter which almost any one may accomplish. At the present time the primary removal too often falls into incompetent hands. After the recurrence both parties to the transaction are eager for expert services, which are then rarely of much avail.

The operative treatment of advanced carcinoma of whatever region is a sorry story. It is, perhaps, not to be totally condemned, giving as it may some solace to an unfortunate class of sufferers, but all surgeons of large experience, and a little past the stage of greatest operative enthusiasm, recognize its poverty as a life-prolonging remedy. Hence to the writer, the prospects of the operative treatment of gastric carcinoma have been changed from one of extreme pessimism to comparative optimism by the trend of recent experience in gastric ulcer. The whole subject is still in the nebulous stage, but certain fixed points begin to stand out:

First, that chronic ulcer is a surgical disease quite as much in the stomach as on the external surface of the body; that its timely cure may be expected, not only to relieve the great distress and dangers of ulcer itself, but to effect a marked prophylaxis of cancer.

Second, that the exploration of suspicious gastric disorders will reveal many carcinomata, yet in their incipient stages, while the chances of successful removal are excellent. As the mortality of partial gastrectomy, under improved technic, lessens the indications for excision of the ulcer- and cancer-bearing area as recently suggested by Mayo and Rodman, will increase. At present this radical measure is clearly indicated in three conditions:

a. Carcinoma not yet disseminated beyond apparent anatomical removal.

b. Chronic ulcers showing beginning malignant transformation.

c. Certain extensive indurated chronic ulcers, at the primary operation if the patient's condition permits, or if not, at a secondary operation after recuperation from a preliminary gastro-enterostomy.

Practically, the two latter indications must be included as one, since it is not possible to always differentiate these cases before or at the operation; only subsequent microscopic investigation can be relied on in many cases. Hence the matter resolves itself into this: If the disease be clearly cancerous and radical removal practicable, it should be done. Sometimes the primary growth is found readily removable, but extensive dissemination of minute or miliary carcinosis renders excision useless and a palliative gastro-enterostomy may be worth while. But this operation now has but a very small utility in gastric cancer, because in those cases in which it brings the most temporary relief gastrectomy offers more, while in those past hope by gastrectomy, the relief from gastro-enterostomy is slight and of short duration. While the writer occasionally does a gastro-enterostomy in inoperable carcinoma, after the abdomen is open, he never advises it in a case known to be beyond radical operation; that is, it is an operation rarely, if ever, to be chosen before the abdomen is opened. If it is apparent that the disease is cancer, and is quite clearly beyond practical hope of cure by removal, no operation is indicated.

If in an old ulcer there be only suspicions of malignancy, gastrectomy is indicated, but the condition of the patient may render operation in two stages advisable. Should the mortality of such a partial gastrectomy, now probably about 15 per cent, be further reduced to approximately that of gastro-enterostomy, the latter indirect operation for gastric ulcer might be largely supplanted by the, in many respects, more rational excision of the ulcer-bearing region. Reduced to 5 or 10 per cent, partial gastrectomy undoubtedly will be, but it is scarcely in the nature of things that it will ever catch up with the comparative minor gastro-enterostomy, the dangers of which are also being rapidly eliminated. (Mr. Moynihan has made 75 operations for gastric ulcer with but one death.) But we have certainly reached the stage where all border-line and suspicious cases, and certain extreme ulcer cases, can afford to take the somewhat greater immediate risks for the more complete and lasting rewards.

As already stated above, the two difficulties in the surgical cure of cancer are sufficiently early diagnosis and the scarcely not less important efficient technic of thorough removal.

It is not the purpose of the writer at this time to touch upon the operative technic, but perhaps a few words upon diagnosis is worth while, although the topic is one which ill adapts itself to didactic treatment. When a neoplasm of the breast, much less one of the stomach, may be readily declared malignant upon any infallible rule or general formula, its surgical treatment is ordinarily of no particular consequence. In the breast it is only when we recognize a suspicious nodule not otherwise readily accounted for and explore or remove it first, and examine it afterwards, that we effect many cures. The practitioner who waits for all the classical signs of carcinoma to develop, makes a sure diagnosis, but he also renders a perfectly certain belated prognosis possible. Strange to say many diagnosticians apparently persistently fail to recognize this simple fact, that the patient is more interested in sure cure than in astute diagnosis. The slow but sure dignostician of cancer is strangely ready to operate, after the case has developed to his satisfaction.

It is to good judgment, careful observation, wide clinical experience and surgical instinct, i. e., the recognition of some organic stomach trouble demanding early exploration, that we are to look for results, rather than to any specific sign or test; and that is just the trouble, for there is no lack of practitioners who can recognize specific signs and make the most elaborate tests, but good judgment and surgical instinct are not only more rare, but their possessors find it quite impossible to reduce to general formulæ the reasons for wise action in individual cases.

In the hands of the incompetent exploratory incisions are undoubtedly liable to great abuse. But the more useful agencies wrongly applied are naturally dangerous. In the hands of the thoroughly competent, exploratory operations are nearly always beneficial, and rarely if ever injurious. The incision should never be made as some seem to suppose without any preliminary diagnosis, and simply to determine whether or not anything organic is wrong. The procedure is only exploratory in so far as details are concerned. The existence of a surgical affection should certainly be established, then none but a pedant hesitates, because, for sooth, it is yet impossible to predicate which one of several conditions exist. In any event it is only by the early exploration of surgical affections of the stomach, that we may hope for much success in the treatment of carcinoma of that organ.

It is then apparently fair to conclude that in our present light the surgical prospects of gastric cancer instead of being especially dark are at least as good as those of cancer in general. Indeed there is much reason to hope that a full development of the surgical treatment of gastric ulcer may place a considerable percentage of gastric cancers, next to those of the lip and face, among the more favorable for surgical treatment, placing them as they belong, among those forms which are preceded by chronic irritative lesions, and present a more or less long latent stage during which wide removal is followed as a rule by prolonged or permanent cure.

CASE OF SARCOMA OF THE FEMUR RECURRING AFTER AMPUTATION AND CURED BY INJECTIONS OF COLEY'S FLUID*

By H. B. Sweetser, M. D.

Professor of Surgery, Hamline University

MINNEAPOLIS

Sarcoma of the femur treated by operation, is almost sure to recur. This appears to be true, whether resected or amputated in continuity or disarticulated at the hip-joint. Nor does the type of tumor seem to make much difference, whether round, or spindle, or giant-celled, medullary or periosteal, confined to the condyles or invading a large part of the bone and soft tissues. In all the papers and discussions on the subject, to which I have had access, this same hopelessness is expressed.

Almost the only cases that have not recurred, or, if recurring, have disappeared again, are those which have freely suppurated after operation, or which were inoculated with erysipelas poison, or which were subjected to injection with the toxins of streptococcus erysipelatis and bacillus prodigiosus, the so-called Coley's fluid.

In the pre-aseptic days when operative wounds almost invariably suppurated the results were better than they are now. Wyeth reports five very interesting cases of inoperable sarcoma which were subjected to inoculation with erysipelas poison, and all of the tumors had disappeared when the erysipelas was cured. Coley reports that fifty per cent of spindle-celled and five per cent of round-celled sarcomas disappeared under injections of Coley's fluid. Dr. O. K. Winburg, of Lake Park, Minn., reported last year a most interesting case of inoperable recurrent and metastatic sarcoma of the superior maxilla, which entirely disappeared under the influence of Coley's fluid.

I herewith wish to add another one to the not large number of reported successes from the use of this fluid.

CASE

Mr. D——, aged 33 years, of German descent, seen August 9, 1902, with Dr. A. N. Bessessen. Family history, negative, there being no case of malignant disease known; parents living and healthy, as are also his brothers and sisters, excepting one brother who died of tuberculosis. The patient had always been rugged and strong, weighing 196 lbs., never had syphilis or rheumatism or any severe illness. Bearing on the disease the following facts are of interest: In 1898 at the battle of San Juan, he was kicked over the right knee by a cavalry horse, but he entirely recovered from the effects of this in a short time. Again in February, 1902, he was struck over the inner condyle of the right femur by a tailor's gooze, but the effects of this also were quickly recovered from and almost forgotten.

In March, 1902, he began to suffer from pain in the right knee, most severe at night and almost disappearing during the day. No swelling appeared, however, until some time in June, but since then this has gradually increased in size. His treatment had consisted in administration of salicylates, potassium iodide, and immobilization of the knee, but entirely without benefit. When seen by me in August he stated that he had lost some in weight; that the pain was marked; and that he was able to get very little sleep. Over the right inner condyle was a soft, fluctuating, globular tumor about the size of a small orange. It was very tender, and the skin over it was reddened. The leg was held at nearly a right angle; temperature, 99.5°; pulse, 100.

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*Read before the Minnesota State Medical Society, June 17-19, 1903.

A probable diagnosis of sarcoma was made, but the patient was given the benefit of any doubt, and subjected again to the influence of antisyphilitic medication, but without benefit. On August 25th the tumor was opened, the patient objecting to amputation without positive proof of malignancy. The tumor was full of bloody fluid, with free masses of fleshy tissue. It had eroded the bone and invaded the soft tissues over the inner condyle. The microscopic examination was made by Dr. J. Frank Corbett, who reported it to be a large spindle-celled sarcoma. In some of the sections there were numerous giant cells, but in others none at all.

On September 3d, Dr. A. N. Bessessen assisting, the thigh was amputated eight inches above the lower end of the femur. Union was practically by first intention, except that a small abscess formed in the soft tissues where drainage was made. Following the amputation the pain continued and gradually grew worse and more severe, requiring several doses of morphine daily to control even to a slight extent. Loss of weight also was progressive, the extreme loss being about 80 lbs., for after he had recovered sufficiently to get out of doors on the 1st of January following, his weight was only 126 lbs.

Early in October, about five weeks after amputation, recurrence was noted, a small hard lump appearing on the anterior aspect of the distal end of the femur. This rapidly increased in size, projecting as a well-defined spherical mass, as large as a goose-egg or larger. The whole leg also became swollen, and attained a circumference of twenty-two inches, or four inches more than that of the sound side. His temperature went up to 102° F., and the pulse to 130 per minute. The pain became unendurable, especially in the night, and ¾ of a grain of morphine was ineffectual in relieving it.

On October 14th ½ minim of Coley's fluid was injected, and the record the following morning showed that the pain was more easily controlled. The significance of this, however, was not appreciated apparently, for no further injections of this were given until later. Disarticulation at the hip-joint was refused; nor did I urge it, because of the early recurrence and its very rapid progress. About November 1st the use of Coley's fluid was resumed, and injections made every second day. The initial dose was 1 minim, and it was increased until on the 12th 4 minims were given. Following this the injections were given every second, third, or fourth day, depending on the amount of reaction obtained. The dose was increased gradually until 10 minims were reached, but this dose was not exceeded. Except on a few occasions the reaction consisted in a temperature of about 100° F., and a pulse-rate of about 100 per minute, occurring usually five hours after injection. On December 5th, the 17th injection (10 minims being given by mistake instead of 5) was followed by a severe chill, the temperature reaching 103.5° F., and the pulse 135.

The injections were always given in the neighborhood of the tumor, were very painful, and raised a lump which did not disappear for a number of days. None of them suppurated. The preparation used was that of Parke, Davis & Co. Altogether there were thirty-six injections given, extending over a period of five months. The last was given on March 4, 1903. The amount of fluid used approximated ½ oz. The effects of the injections were remarkable in several respects.

First, concerning the pain.—This was so intense that the patient went for days practically without sleep, notwithstanding the exhibition of various anodynes in large doses. The injections very promptly controlled this, even the first dose of ½ minim on October 14th being followed by relief. Subsequently we noted that the pain was relieved for about 48 hours, but recurred on the third day, again requiring morphine. Some morphine was necessary until the middle of December.

Second, concerning the influence upon the growth.—There was very little change in the appearance of the leg or tumor until at least fifteen injections were given, i. e., until about December 1st. Then, suddenly, a very rapid retrogression took place, so that by Dec. 15th the tumor had diminished to the size of a walnut, the circumference of the leg had lost three inches, and the soft tissues were again freely movable. By January 1, 1903, the tumor had entirely disappeared.

Third, concerning the influence on the general system.—The temperature and pulse responded almost as promptly as did the pain, and by December 1st were practically normal, except during the period of reaction. The appetite did not become good till about Christmas, but during January he ate ravenously and gained 27 lbs. in 27 days.

The patient now weighs 180 lbs., having regained all he lost during his illness. He wears an artificial leg, works daily, and feels in perfect health.

During the past three weeks he has been getting a prophylactic injection of 5 minims, which produces no pain and no reaction.

The recurrent tumor was not examined microscopically.

FATAL POISONING BY OIL OF CHENOPODIUM

By Edwin T. Ramsey, M. D.

CLARK, S. D.

I was recently in consultation on a case of poisoning, followed by death, from a dose of oil of chenopodium (wormseed), and as I find only one other similar case reported, I deem this case of sufficient interest to the profession to send it to The Lancet.

CASE

Mrs———, aged 61 years. Epileptic. Family history, negative. Personal history: She was healthy until the fall of 1901, when she began having attacks which were diagnosed as epileptic and which kept increasing in frequency. During the spring of 1903 her mind seemed to become weakened, and she imagined, among other things, that she had a tapeworm, and she was advised by friends to take oil of chenopodium (wormseed).

On July 24, 1903, she got up about four o'clock in the morning, and took a dose of the oil, and upon investigation later it was found that she had taken about a tablespoonful. Fifteen or twenty minutes after taking the dose, she complained of a numbness and tingling in the hands and feet, but soon went to sleep, and when breakfast was ready she seemed to be resting easily, and her relatives did not call her. About ten o'clock she got up of her own accord, and had breakfast, but she complained of being drowsy, and also of a numbness in the body, and soon went to sleep again. About one o'clock the patient was called for dinner, but did not seem to understand what was said although she could hear, and she answered what was said to her, but not with any meaning in her answers. A physician was sent for, and eliminatives and stimulants were administered to support the heart. By six o'clock that night the patient had become unconscious, in which condition she remained until the evening of the 26th when death ensued.

The purgatives that were given had very little effect on the bowels, although enormous doses were given, and high rectal injections were also used.

LIABILITY OF A RAILWAY COMPANY FOR MALPRACTICE

In Jones *vs.* Railway Company, the Court of Appeals of Texas has handed down an interesting decision, governing the liability of the company in a case of alleged malpractice by one of its surgeons. An action was brought to recover for personal injuries received by the wife of the party suing. The evidence showed that the company tried to obtain a release, and offered as an inducement that they would treat the plaintiff's wife, employing the company's surgeon for this purpose, and that they would pay her board bill. It was held that if the railway company furnished medical treatment as a part of the consideration for the execution of the release, it would be liable for unskilful treatment. This would hold, even if the release were set aside on account of fraud in its procurement.—Jour. of A. M. A.

ARISTOCHIN—A NEW AND BETTER QUININE PREPARATION

By E. Klaveness, A. B., Ph. D., M. D.

BROOKINGS, S. D.

Until a few years ago it was the unpleasant necessity of all physicians, whenever they had prescribed quinine in any solution and their patients made a complaint in regard to the obnoxious medicine, to correct the criticism rendered and to teach their sweet-tempered patients a better understanding of the palatability of quinine in an aqueous solution. Usually this lesson was given in a very convincing manner, namely, by a personal demonstration; the doctor himself took a sip of the fluid, and with a smiling face assured his critic that it was a mere pleasure and a delight to the palate to take a drink of a solution so delicious and life-renewing as that of quinine. No doubt the calm appearance of the respected family physician, while submitting to this severe test, was beneficial and suggestive to the patient; but I am satisfied that most of my colleagues will agree with me when I confess that we always left the home of our patient with a profound disgust, and that the cutting, sharp, and bitter taste of the quinine, to my knowledge incomparable to anything else, would have been sufficient to cause us to abandon this drug had it not been for its general usefulness as a therapeutic agent. Fortunately this condition is changed, and the time has come when the doctor may safely prescribe quinine without fear of his patient's complaints. The successful and steady advancement of pharmaceutical science has finally mastered this problem in regard to quinine, and to-day the medical profession has at its disposal two preparations of quinine called "saloquinine" and "aristochin," which are entirely tasteless. Since last fall I have had opportunity to prescribe and test aristochin, and although my practice but seldom brings me in touch with cases of malarial fever, the undisputed field for administering quinine or its substitutes, I feel that I am justified in calling the attention of my colleagues to the fact that whenever we intend to prescribe quinine we should stop and consider the advantages in giving a tasteless preparation, provided, this will do the same work that may be expected of any other form of quinine. My experience during the past five or six months has convinced me that such is the case, and I hope to do the profession a service by giving my experience.

First, however, a few words about aristochin and its chemical structure. It is a bulky, amorphous powder, of slightly pinkish-white color. By boiling it may be dissolved in alcohol, ether, and chloroform as well as in glycerine, while in water it is insoluble; in short, it may be aptly described as a neutral carbonic ester of quinine, a "dichinin-carbonate," containing 96 per cent quinine. Placed on the tongue it is tasteless, which may be accounted for by the fact that it is insoluble in the saliva, and has no local irritative effect upon the taste organs. Right here I wish to underline these desirable features, and their importance in the treatment of children where the administration of aristochin has proved of great benefit both for the relief and the cure of the troublesome disease called whooping-cough. Personally, I have not during the past winter or spring met with a case of whooping-cough, simply because we have not had this disease in our locality during the time mentioned. For this reason being unable to testify to the therapeutic value of aristochin in this special disease, I take the liberty to refer to extensive experiments carried out by German physicians; for instance, Dr. H. Stursberg (Munchener Med. Wochenschrift, 1902, No. 45). Dr. Norbert Swoboda (Wiener klin. Wochenschrift, 1903, No. 10), both report very favorably upon the results obtained with aristochin; in fact, in more than 50 per cent of the cases a cure was accomplished in less than two weeks.

In my own practice I have had very satisfactory results in prescribing this drug in cases of tonsillitis, la grippe, headache, and diarrhea, as may be seen from the following synopsis of a few cases, marked down for illustration.

No. 1.—Miss T. J——, aged 23 years, Dane, was taken sick November 25, 1902, with headache, fever, and sore throat; temperature, 100°; pulse, 120. Inspection of the mouth showed both tonsils to be swollen and covered with a punctate grayish, yellowish coating. Diagnosis: angina lacunaris. Besides a common gargle I prescribed for this girl—and I have done likewise many times later—half a gramme of aristochin. I ordered five of these powders put up for her, and advised her to take one powder two to three times daily. The result was that the following day the fever was gone, leaving her in a more easy and comfortable condition. After a couple of days her tonsils were looking perfectly normal, and her recovery was complete.

2.—Mrs. A. S——, aged 54 years, Canadian, on December 22, 1902, complained of headache, which had troubled her for the past three years. The pain was located in the vertex of the skull, and she had a feeling as if her head "would burst." Years ago when living in Canada, she had repeated attacks of intermittent fever. I prescribed for her a powder containing aristochin 0.25 and aspirin 0.75. On the 18th of March this year she wrote me that she had felt so well while using my medicine that she wanted more to be kept on hand.

3.—Mr. D. S——, aged 21 years, American, on January 30, 1903, took a severe cold and suffered from headache, was given an ordinary cough-syrup and capsules of aristochin and aspirin with most gratifying results.

4.—Mrs. M. U——, aged 28 years, American of Norwegian descent. I saw her March 31, 1903. She had been suffering from diarrhea since the middle of December; had never been sick before; did not cough; had taken different medicines, but without avail. When without medicine her bowels might move from 8 to 12 times daily, never bloody stools, tongue not especially coated. She was put on a more stringent diet, and then in conformity with an advice which I found in "La Semaine Medicale," for August 6, 1902, page 234, I gave her quinine in combination with more ordinarily used astringents. The dose of aristochin was 0.15. and she was to take the powder before meals. One week later her husband reported to me that she was very much improved, in fact she was now rather constipated. Later I have had from her only good news, and for some time she has been using only a tonic, in casu Pepto-Mangan (Gude).

Finally, I deem it appropriate to mention in a few words how well aristochin is borne by the stomach even when used in larger doses and continually, and for this purpose I shall refer to the following case:

Mr. G. S. H——, aged 49 years, American. When I first saw him on the 18th of February, he complained of a marked retraction of the right nipple. Examination showed this to be true, also the existence of a hard tumor about the size of a walnut, freely movable and not adherent to the underlying muscular tissues. Careful palpation ot the axilla revealed a small gland along the lower border of pectoralis major. Diagnosis: *Schirrhus mammae;* treatment, *operation.* In this special case, however, the operation was deferred, because my patient, who was a representative in the state legislature, expressed his desire to take part in the legislative work until the session closed, which would occur on or about March 6th. Of course I did not look for any rapid growth of a carcinoma of this pathologicol anatomical description, but just how long a malignant tumor will remain freely movable no one can tell. While this was true, and I was anxious to have the operation performed as soon as possible, I still believed I could give him a few weeks of grace, provided something could be done so as to insure no marked increase in the size of the growth. With reference to an article in "La Semaine Medicale" (February 27, 1901), in which paper Dr. Jaboulay relates his encouraging results from giving quinine in cases of cancer, I felt justified in putting off the operation until the middle of March, and meanwhile gave him aristochin, one-half gramme twice a day. With a feeling of perfect health he continued to take these capsules, and on March 18th the tumor, as well as the gland, was successfully removed a la Halsted.

I have not recorded this case with a view to question the value of the knife or the *x*-ray in the treatment of cancer, but merely to show how safely aristochin may be given in large doses for a long period of time and without any depressing effect upon the heart.

From my experience with a long line of quinine preparations I should assign to aristochin the first place, not alone for the reason that it is tasteless, but because it meets with the requirements ordinarily expected of quinine.

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STATE MEDICAL ASSOCIATION

The annual meeting of the State Medical Association will be held in Minneapolis in 1904. The physicians of Hennepin County will make an effort to secure the largest attendance in the history of the society. Already steps have been taken toward the organization of committees to look after the ordinary details that are essential for comfort and convenience. The president, Dr. C. L. Greene, of St. Paul, will co-operate with his appointees to secure the scientific program.

With the meeting of the American Medical Association ten days later than the Minnesota state meeting, a large number of physicians are expected to take an active part in both associations. The beginning of the work of the House of Delegates in both organizations next year, and the election of delegates from the county and state societies will add to the general interest. The business of both associations will be transacted without interruption of the scientific work. There will be less politics and more medicine. The further fact that the alumni of the universities will have an opportunity to combine their various meetings at the same time will add greatly to the attendance. The organization of the county societies all over the state is expected to bring the membership of the state organization up to twelve hundred. This will give the state of Minnesota three delegates in the American House.

Any suggestions from members concerning the scientific program at this time will be acceptable. The younger men are urged to participate as fully as possible in the preparation of papers and specimens. The meeting of the association in June of this year lacked push and force, which was probably due to an atmospheric state or was a part of the volcanic disturbance that caused so many upheavals.

The Lancet is particularly desirous that the next meeting shall be a decided success, and that the physicians of this city will contribute their best to make it such.

LET US GET ORIENTED

A good friend of The Lancet says that he has been amused by the various definitions of "the successful physician" he finds in our columns. Our friend should not forget that these definitions have been mainly the expression of our contributors, or have appeared in the brief excerpts we use to fill out our columns.

Remembering that the editorial department of a medical journal should be a storehouse of conservative statements, we have not yet undertaken to define what is success in medicine or what is a successful physician; but we cannot agree that it is necessary, as our correspondent says, to tack onto any of the definitions that we have thus far printed the words *and who collects his fees.* To be sure that is an important element in success, not, however, because the physician may keep out of the poor-house, but because money enables him to develop to the fullest many of his faculties that must be active in success.

We thought that Dr. J. F. Bond, of Wabasha, gave an excellent definition of success in his article which appeared in our issue of Aug 15. He said: "The successful physician is one whose attainments are recognized by the profession, and whose work stands well with the laity." It is well to note the full significance of these words. The man may have high attainments, even as measured by the standards of his professional brethern, and be a failure, if he does not stand well with the laity and thereby possess the power that lies in the suggestive therapeutics of a pleasing personality. On the other hand, he may be a most delightful fellow, and may cure a good many chronic neurotics by the influence of his personality; but if he does not possess the professional attainments imparted by hard work in the medical school or by the good deal harder work in the office, supplemented by experience, he surely will not be a success. But we are not yet ready to depart from our conservatism, and write on success. We simply started out to quote a very pretty thing from Dr. Osler.

When a man is lost in the woods, he is lost, and remains lost, because he does not know the points of the compass—he cannot get oriented. Before you can tell who is the "successful physician" or the successful man in any walk of life, you must get *oriented*. But hear Dr. Osler who is speaking to the young man in the profession in what he says about being oriented:

"For better or worse, there are few occupations of a more satisfying character than the practice of medicine, if a man can but once get oriented and bring to it the philosophy of honest work, the philosophy which insists that we are here, not to get all we can out of the life about us, but to see how much we can add to it. The discontent and grumblings which one hears have their source in the man more often than in his environment. In the nature of the material in which we labor and of which, by the way, we are partakers, there is much that could be improved, but, as Mrs. Poyser remarks, we must accept men as the Lord made them, and not expect too much. But let me say this of the public: It is rarely responsible for the failures in the profession. Occasionally a man of superlative merit is neglected, but it is because he lacks that most essential gift, the knowledge how to use his gifts. The failure in ninety-nine per cent of the cases is in the man himself; he has not started right, the poor chap has not had the choice of his parents, or his education has been faulty, or he has fallen away to the worship of strange gods, Baal, or Ashtoreth, or, worse still, Bacchus. But, after all, the killing vice of the young doctor is intellectual laziness. He may have worked hard at college, but the years of probation have been his ruin. Without specific subjects upon which to work, he gets the newspaper or the novel habit and fritters his energies upon useless literature. There is no greater test of a man's strength than to make him mark time in the "stand and wait" years.

BRING US GOOD "GIFTS"

There is an ancient saying running somewhat like this: "Beware of the Greeks bearing gifts." We believe this has been adopted as good advice in modern times. As autumn approaches physicians may confidently expect a long-continued shower of gifts from their friends, the manufacturers of physicians' supplies of various kinds, except those needed for personal use.

This ancient bit of wisdom will answer for a warning to physicians, but we feel that the gift-bearers need some advice, and we are confident they would think so if they could see the physicians' waste-baskets in a city like Minneapolis at the end of a busy day. Now the truth is, most of the advertising novelties sent so freely to physicians possess neither interest nor value of any kind, and possessing neither, the reading matter they contain, even if only the words "compliments of ——," makes no impression upon the recipient, if, indeed, it is seen by him.

There are some exceptions to the rule, and one of them is a bacteriological chart recently sent out by the Breitenbach Company, of New York. This chart gives sixty plates in colors, whose execution is equal to that found in our best text-books, and is worthy a place on the wall of any physician's laboratory, and it might be hung with profit in the waiting-room for one's patients to look at, and thus to learn, by an object lesson, what medicine is doing along this line of advancement.

We commend such "gifts" to manufacturers, and we think they should always remember that physicians have no use for childrens' trinkets, which much of the stuff sent out amounts to.

FOUR CASES OF LYSOL POISONING.

Few remedies have achieved such rapid popularity as lysol, the reason being that it has been considered an efficient antiseptic, and almost nontoxic. Numerous reports have appeared of late of poisoning, which shows that it is not nearly as innocent as has been supposed. The author adds to our knowledge by describing four cases in which the lysol was taken with suicidal intent. All four cases recovered. There was marked local effect upon the mucous membrane of the mouth and throat; in two cases there was deep coma. The treatment employed was to wash out the stomach and administer large doses of camphor.—Berliner klinische Wochenschrift.

BOOK NOTICES

Radium and Other Radio-active Substances: Polonium, Actinium, and Thorium. With a Consideration of Phospherescent and Fluorescent Substances, the Properties and Applications of Selenium and the Treatment of Disease by the Ultra-violet Light. By William J. Hammer, Consulting Electrical Engineer. Price, $1.00. New York: D. Van Nostrand Company.

The correlation between the vital and physical forces is now more under observation than ever before, and the student of medicine is vitally interested in every discovery and every fact that throws a bit of light upon the subject.

The wonderful substance called Radium, with its apparently new properties, is attracting more attention among scientific men than any other discovery made within a century, and we are fortunate thus early to have so lucid a writer as Professor Hammer tell us practically all that is known of this and the other radio-active substances.

The closing chapter is on "The Treatment of Disease by the Ultra-Violet Rays," and is of great interest to physicians.

The entire work reads like a fairly tale, and is exceedingly fascinating. It is well illustrated, and we are of the opinion it is the best presentation of the subject to be had, in this country at least.

Gynecology. A Text-Boook for Students, and a Guide for Practitioners. By William R. Pryor, M. D., Professor of Gynecology in the New York Polyclinic Medical School; Attending Gynecologist, New York Polyclinic Hospital; Consulting Gynecologist St. Vincent Hospital, New York City Hospital, St. Elizabeth Hospital. One Hundred and Sixty-three Illustrations in the Text. New York: D. Appleton and Company.

The work is divided into two parts; in the first the diseases are described, and in the latter the operations are given. This arrangement will enable the student or surgeon to find what he wishes without going over unnecessary matter. The author has confined himself strictly to gynecological topics, leaving bacteriology and minute anatomy to other writers.

The practitioner and student become bewildered when they seek to find out something definite about a certain operation or treatment from the ordinary text-book. It will tell what has been done, it will describe the different operations, and when you are through reading you are at a loss to know what course to pursue. Individuality is what makes a work of value to the ordinary man, and this is what Dr. Pryor has shown in his work. He tells step by step his method in operating, and his line of treatment, based on personal observations and experience.

Due time and space are given to describe operations and treatment from recognized authorities.

Most of the illustrations are original and by eminent artists and will be found of much value.

The work is well worthy of a place in the physician's library.

C. D. Harrington.

Manual of the Disease of the Eye for Students and General Practitioners. By Charles H. May, M. D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York. Price, $2.00. New York: William Wood & Co.

The first edition of this book was published three years ago, and was so soon exhausted that a second edition was published one year later, of which two reprints were later issued, and now comes the third edition.

The volume is of the same size, and the only changes made are such as would bring the work up to date. There are a few additional illustrations (photographs) to aid the student to understands more clearly the descriptions given in the text. The work is one written essentially for the general practitioner and the student, and is the first book the medical student should procure on the diseases of the eye, while it contains all that a general practitioner will require as a reference book.

Frank C. Todd.

Dwight's Epitome of Medical Jurisprudence. A Manual for Students and Practitioners. By E. W. Dwight, M. D., Instructor in Legal Medicine, Harvard University. In one 12mo volume of 249 pages. Cloth, $1.00, net. Lea's Series of Medical Epitomes. Philadelphia and Dr. Dwight's position as instructor in Legal New York: Lea Brothers & Co.

Medicine at Harvard is a guarantee that his words carry the weight of authority. His book contains so much in small compass, it is worthy of the highest commendation, and no physician will regret paying a dollar for it.

Following the Deer. By William J. Long, Author of "School of the Woods," Etc. Illustrated by C. Copeland. Boston: Ginn & Co.

As the hunting season approaches, a book that has the flavor of the woods, with their colors and odors and animal life, is doubly welcome; for its reading adds much to the anticipations of one's trip, and even more to the zest of the chase.

Mr. Long has followed the deer as a lover of nature and as a huntsman, and he would have his reader learn that the fullest enjoyment does not lie in the act of killing big game, though when done in the manner of the true sportsman, the enjoyment is very great. When one has gone with Mr. Long on his vacation trips to the north woods, he feels that there is something ennobling in coming into contact with nature, and he longs to visit his hunting-grounds without a gun; and one cannot do so without a body and a spiritual uplift that the hunting trip will not give.

The book is exquisitely illustrated in the body and on the margins of the pages; and is just large enough to give one a delightful fall evening's reading. We believe the price is $1.00.

Bill Nye once said that John Bright, having discovered the need of a "good, reliable disease for the use of the aristocratic and patrician statesman," began to "sit up nights and perfect Bright's disease." He says of it: "It has been kept out of the reach of the poor, and to die of this disease has been regarded as a proud distinction."——Iowa Med. Journal.

A story is told on a doctor that is too good to keep. A certain citizen set out four shade trees for the doctor. Later the doctor was called to give medical assistance to the citizen's mother-in-law, who soon after died. The doctor presented his bill, and the citizen paid it. After paying the bill the citizen happened to remember that the doctor owed for the shade trees and presented his bill, explaining that he forgot to do so when he settled. The doctor looked at the bill and remarked: "But those shade trees died." "So did my mother-in-law," was the prompt reply. The doctor asked for the receipt of the bill and checked further discussion.—Ex.

NEWS ITEMS

Dr. L. T. Kelling, of Ely, Iowa, has located at Elkton, N. D.

Dr. C. R. Schneider, of Blue Earth, has located in Wells.

Dr. Ralph Hedges has moved from Lewiston to Billings, Mont.

Dr. Ivan Maercklein, of Ashby, N. D., has located at Braddock, N. D.

Drs. C. F. and J. B. Holst have moved from Lake Benton to Little Falls.

Dr. A. Cyr, of Ghent, has returned from New York, and resumed his practice.

Dr. S. H. Duley, of Morris, has retired from practice, and will reside in Iowa.

Dr. B. K. Ellis, a recent graduate of the State University, has located at Alpha.

Dr. H. E. Cleveland and Miss Elvia M. Shake, of Osakis, were married last month.

Dr. M. C. Johnston, of Hope, N. D., has been doing post-graduate work in Chicago.

The Sisters of Charity of Fargo are erecting a new hospital which will cost $50,000.

Dr. J. H. Kauffman has resumed practice at Dassel, and is associated with Dr. Dahlquist.

Dr. C. F. Cutler, of Sioux Falls, S. D., was married last month to Miss Grace Cameron, of St. Paul.

Dr. H. A. Beaudoux, of Fargo, N. D., is home from an extended trip to Europe where he went for special study.

Dr. T. O'Connor, who has been practicing in Maple Lake for a long time, has decided to change his location.

Work has been begun on the new hospital building at Kulm, N. D., and the building will be occupied this fall.

Dr. James Semple, of Langdon, N. D., was married last month to Miss Marion S. Day, formerly of Minneapolis.

Dr. M. L. Ransom, of Foley, has taken the practice of Dr. Bearman, of Hancock. The latter will move to Chicago.

Dr. George A. Carpenter, of Fargo, N. D., has been appointed a member of the North Dakota Board of Medical Examiners.

Dr. T. H. Murray, of Rockford, who has been taking a special course of study at the Chicago Policlinic, has resumed his practice.

Dr. C. N. Callander, of Fargo, N. D., has returned to his practice after spending several months at Johns Hopkins and in Europe.

Dr. Helen Hughes has returned to Mankato after a year's absence in Europe. She will make a specialty of women's and children's diseases.

Dr. J. A. Somerville, physician for the Soldiers' Home of South Dakota, has resigned, and will be succeeded by Dr. W. S. Bentley, of Gary, S. D.

Waconia is to have a new hospital. Dr. G. A. Eisengraeber, who graduated from the State University in 1901, will be the physician in charge.

Dr. J. A. Millett has resigned as resident physician of the state prison at Stillwater, and will settle on the Pacific coast. Dr. D. Kalinoff, of the Stillwater City Hospital, will succeed Dr. Millett.

Dr. Frank Allport, of Chicago, formerly of Minneapolis, has been elected clinical professor of ophthalmology and otology in Northwestern University, which is associated with the Chicago University.

The physicians of Sibley county organized following officers for the current year: President, Dr. D. N. Jones, Gaylord; vice-president, Dr. M. E. Bushey, Arlington; secretary, Dr. W. F. Flower, Gibbon; treasurer, Dr. C. W. Kanne, Arlington.

The decision against Drs. J. G. Stewart and O. V. Lawson, of Seattle, Wash., convicted of conspiracy to obtain possession of the examination questions used at the January session of the State Board of Examiners, has been sustained by the supreme court of that state, and the fine imposed in each case, $500, will have to be paid.

The first meeting of the Fourth District Medical Society of South Dakota was held at Huron last month. The district comprises ten counties, and there are nine districts in the state. The following officers were elected: President, Dr. W. H. Lane, Miller; vice-president, Dr. C. B. Alford, Huron; secretary, Dr. C. J. Lavrey, Pierre; treasurer, Dr. J. L. Foxton, Huron.

ANNOUNCEMENT

The Minnesota State Board of Medical Examiners still have on hand copies of their Official Register, containing the names, addresses, etc., of all licensed physicians in the state. They will send this free to any who will remit five cents to pay the postage. The Lancet will publish the names of those passing the examination at future dates, and these names can be pasted in the register, thus keeping the list complete. For copies of the register, apply to the Secretary, Dr. C. J. Ringnell, Minneapolis.

FOR SALE

A rubber-tired covered Stanhope, which was made by Babcock and cost when new $225, is now for sale cheap, and is in good condition. Address Dr. F., care of The Lancet.

FOR SALE

I have an extra ophthalmometer, practically new, which I will sell for 50 per cent of its cost price. Address Dr. C. H. Kohler, 612 Pillsbury Bldg., Minneapolis.

PRACTICE FOR SALE

An established practice in a good country town, 45 miles from Minneapolis, worth about $3,000 a year. Residence, office and office furniture, three horses and buggies, can be bought cheap. The present occupant is leaving on account of ill health. Address Dr. J., care of The Lancet.

PRACTICE FOR SALE

A practice worth over $2,000 a year in a village of 2,500 in Southwestern Minnesota, will be sold, together with office furniture, a team of horses and a buggy, for $500. Address Dr. D., care of The Lancet.

FOR SALE

A Geneva retinoscope will be sold cheap. Address Dr. H. E. Conley, Cannon Falls, Minn.

WOMAN PHYSICIAN WANTED

Woman physician is wanted at Bethany Home, Minneapolis. An unequalled experience in obstetrics and a moderate salary are the emoluments. Applicant must be a graduate of a recognized regular medical college. Write to Mrs. T. B. Walker, Minneapolis, for particulars.

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THE RELATION OF THE AMERICAN UNIVERSITY TO THE MEDICAL AND OTHER PROFESSIONAL SCHOOLS*

By John M. Dodson, M. D.,

Dean of Rush Medical College, in Affiliation with the University of Chicago

CHICAGO, ILL.

Ladies and Gentlemen:—

Education is a theme of perennial and ever vital interest to the American citizen, for, from the founders of our republic down to the present time, he has realized that the prosperity and even the perpetuity of our institutions depend upon the universal education and enlightenment of the people. This interest extends to higher and special training as well as to the general education of the masses, and its intensity ebbs and flows with changing conditions and as new phases of the problem present themselves. Just now there is present a wave of intensified interest about the question of professional education, and especially its relation to the university. This topic formed the theme of an important discussion last winter at the meeting of the Association of American Universities in New York, was the subject of a recent address in Chicago by President Hadley of Yale University and of a discussion at a meeting of some western colleges two weeks ago, in the same city, and has been discussed in various phases in many journal articles. The subject is one of great importance to the future of professional education in this country, to the medical as well as to the other professions, and the present and prospective physicians in this audience may be of such signal service in promoting its correct solution that I need make no apology for its selection as the theme of this paper.

What relation should the American university bear to the professional schools? At the present time the professional schools in this country in law, theology, medicine, dentistry, pharmacy, and in some other lines, are, for the most part, quite independent of the university; and even where they constitute such in name, the relation is largely a nominal one without any real vital connection. Is this the best possible arrangement either for the university or the professional school?

Before we proceed with the discussion, it is important that we have a clear agreement as to the meaning of the terms used. What do we mean by a *university?* What do we mean by a *professional school?*

The term university is variously defined. Worcester's definition is as follows: "A school or seminary of learning of the highest class in which various branches of literature and science, including, sometimes, theology, law, and medicine, are taught, and in which degrees are conferred upon individuals who are found on examination to possess certain qualities or who have complied with certain prescribed conditions." Says Braudi: "In the middle ages the Latin term *universitas* signified the whole body of students, or of students and teachers, assembled in a place of education with corporate rights, and under by-laws of their own. In later times, also, the name was held to imply that all branches of study were taught in a university." In the Century dictionary the definition reads: "An association of men for the purpose of study, which confers degrees which are acknowledged as valid throughout Christendom, is endowed, and is privileged by the state in order that the people may receive intellectual guidance, and that the theoretical problems which present themselves in the development of civilization, may be resolved." The Standard dictionary defines it as "An educational institution for the superior instruction or for the examination of students already instructed. A university may take charge of the instruction of students whom it afterward examines for the degree, as in Germany and the United States, or it may do little or no teaching, merely examining or conferring degrees, as in England.

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*Commencement Address delivered before the Students and Alumni of the Medical Department of the University of Minnesota, June, 1903.

"Universities arose in Europe in the middle ages and were at first essentially ecclesiastic. Their functions gradually became more specialized, some dividing into several faculties each of which took charge of some one great branch of instruction, as now in Germany, or into colleges, subordinate teaching bodies, as now in England, where the relation of the university to the college is similar to that of a federal government to its component states. In the United States the word has been used loosely and many institutions that are nominally universities have a standard lower than that of other so-called colleges, but there is a general tendency to restrict the word to institutions offering non-professional instruction beyond the bachelor's degree, and having affiliated professional schools." Says Sedgwick: "A modern university is not merely an institution for the imparting of special kinds of knowledge for professional purposes; it has also the function of advancing knowledge generally and of facilitating its acquirement by students whose aims are purely scientific." The definition in Webster is as follows: "An institution organized and incorporated for the purpose of imparting instruction, examining students, and otherwise promoting education in the higher branches of literature, science, arts, etc., and empowered to confer degrees in the arts and faculties, as in theology, law, medicine, músic, etc. A university may exist without having any college connected with it, or it may consist of but one college, or it may comprise an assemblage of colleges established in any place, with professors for instructing students in the sciences and other branches of learning." President Gilman of the Carnegie Institution defines a university to be "An institution for the promotion of higher education by means of instruction, the encouragement of literary and scientific investigation, the collection of books and apparatus, and the bestowal of degrees. The term has had a different meaning in different ages and different countries." And he proceeds to say, "Since their origin universities have been organizations in which students were taught the highest branches of knowledge. Moreover, universities have been places where man's inheritance from the past has been preserved and interpreted to the living generation. Independence of thought, habits of inquiry, investigation and research, and the art of reasoning have been encouraged and developed within their walls, not always with fervor, it must be conceded, yet perpetually according to the light of each passing age. The university everywhere and always has been a society of masters and scholars, associated for the acquisition and advancement of knowledge. It may be more; it must be this." And again he says: "A great step forward was taken when medicine, law, and theology found a place by the side of philosophy as subjects of highest education." And finally he outlines the functions of the university to be, "1. Instruction of the youth. 2. Perpetuation of former achievements of man. 3. Research. 4. Collection of materials for research, books, laboratories, museums, cabinets, observatories. 5. Granting of degrees, etc. 6. Dissemination of knowledge. 7. Helping the needy student. 8. Upholding high standards. 9. Co-operation and federation."

It is evident from these definitions that there is no exact uniformity of opinion as to what constitutes a university, but we safely say that there are two fairly well established types, that of Germany and that of England, and that the exact status of the university in America is not yet definitely fixed. While our existing institutions conform more nearly to the German type,—a group of professional schools, they possess some features of the English university, and some which are peculiar to themselves. It is not possible to foresee just what will be the ultimate goal of the American university, but I believe it is certain to be, if not a greater institution than either of its foreign prototypes, at least one better suited to the life and conditions of our own country. And I believe, too, that it is attaining to no less an ideal than the broad comprehensive one laid down by President Gilman.

The *professional* school may be defined as an institution where persons prepare themselves for the learned professions, and therefore their scope depends upon what is meant by the word "profession." The Century dictionary defines it as "specifically a vocation in which a professed knowledge of some department of science or learning is used in its practical application to the affairs of others, either in advising, guiding, or teaching them. Formerly theology, law, and medicine were specifically known as the professions, but as the applications of science and learning are extended to other departments of affairs, other vocations also receive the name." In Webster, "That of which one professes knowledge; the occupation, if not mechanical or agricultural or the like, to which one devotes one's self; as the profession of arms, the profession of a clergyman, a lawyer, or a physician; the profession of lecture on chemistry. The three professions, or learned professions, are, especially, theology, law and medicine."

Popularly the word profession and its derivations have been very loosely used in this country to include many vocations and many individuals in no sense entitled to be so classed, but there would be no dissent from the statement that, in the sense in which we are applying it, the word should be extended at the present time to cover a much larger range of vocation than law, medicine, and theology, e. g., teaching, the various lines of engineering, dentistry, pharmacy, music, journalism, and a considerable and increasing list of others. Opinions would differ, however, as to just what this last should include and it would certainly have to be changed a few years hence. It will not be necessary, however, for the purpose of this definition, to make an exact and comprehensive definition, but it will be sufficient to say that some of those mentioned have been pretty generally included in the university curriculum, and, indeed, the relation of some of these departments to the collegiate work of the university has already become much more intimate than that of law, medicine, or theology. It will be of advantage for our purpose, therefore, to confine attention to the three latter professions, with the prefatory statement that the argument applies quite as well in the main to all other professions mentioned. Moreover, as we are all more directly interested in medical education, and, in most respects, the conditions are quite similar in medicine to those obtaining in law and theology, it will be convenient to use the medical school as our chief illustration.

At the present time less than sixty of the one hundred and sixty medical colleges in this country are connected in any way with an institution of general learning; of these sixty schools, less than a score have any more than the merest nominal relationship; and of this entire number in not one is the connection with the university really intimate in other than perhaps on the financial or business side. Often the institutions are separated by a distance of several miles; and without exception, so far as I am aware, the faculties remain quite independent, the medical faculty never meeting with the general university faculty, but having entire and exclusive control of its own educational affairs. I believe the same thing is true, in the main, of the law and divinity schools, though a larger proportion of these are nominally university departments. The reasons for this state of affairs, the conditions which have resulted in this independent establishment of the professional schools in America, need not here detain us. They are not far to seek and a little study of the situation will show that until about twenty-five years ago, a *real* university medical or other professional school, would have been quite impossible. The conditions have changed enormously, however, in these twenty-five years, and the wide-spread feeling which has developed that some sort of connection between the professional school and the university is desirable, is evidenced by the large number of nominal unions that have been effected, especially in the medical group. That it is desirable that some professional schools should have a university connection is, therefore, quite generally conceded. The debatable ground comprises the questions, (1) Is it desirable that *all* professional schools should be university schools? and (2) Just what and how intimate should be their connection?

There are some, even of our most experienced educators, who maintain that there should be two kinds—two grades if you please—of medical schools,—one, the university medical school, devoted to the training of those men who are to fill the higher walks of professional life, the teaching and research positions, and the more desirable and remunerative (not surely more responsible positions) in city practice, as consultants and specialists; while to the other, the independent medical college, is relegated the instruction of those who are to fill what they would be pleased to term the lower positions in city, village, and country practice. President Eliot of Harvard University, in a recent discussion, expressed himself as follows: "I believe that there will always be professional schools in this country open to anybody in the street who wants to walk in. There are professional schools, then, which profit by the fact that the university schools admit only bachelors of art or science. They are well content with the profit. They perform a very useful function, but I venture to say that any American university now in existence which does not require the college degree for admission to its professional schools, will in fifty years find itself in an inferior position to those universities that do require it." I should be extremely sorry to misinterpret President Eliot on this point, but, as I understand his position, he believes that these inferior schools are performing "a useful function." Certain it is that there are others who frankly take that position, and from that position I desire here to dissent most emphatically. Undoubtedly, special qualifications and special training are needed in the different walks of professional life, for teaching and research, for consultation and the practice of the specialties, or for the work of the general practitioner, but it seems to me that the physician, of all others, who needs and can put to greatest use the broad, thorough training which is afforded by the university medical school, is the country doctor, who is so wholly dependent on his own resources. He needs, moreover, as compensation for his hard life and the meager financial returns and material comforts which it brings, the solace and satisfaction to be obtained from his own resources in the cultivation of literature and science, and the consciousness that he is a man of power and influence in the community. This power and influence are dependent not nearly so much on his professional skill and attainments as on that general culture which is the chief product of a university career. And again, it seems to me quite impossible to assign men in advance to the positions in the profession which they are ultimately to occupy on the basis of the educational advantages which each one may enjoy. That is a matter which must be left to the selective process of experience and development in each case. Finally, whenever the conditions of the time warrant exaction from every student seeking admission to the professions, of such requirements for admission and graduation as are consonant with university ideals,—and I believe that time has already arrived,—then the training of every such student is a work wholly compatible with the dignity of the university, no matter what line of work in that profession he may ultimately come to follow. As there are, to-day, at least thrice as many medical schools in this country as are needed to supply the physicians' demands, and as, furthermore, it would be possible for every one of these fifty or sixty medical schools to become true university schools in the best sense, it should be the aim of all who have influence in this matter to bring about this desirable end. This can not be brought about by any onslaught on those independent professional schools, but only by the creation of a sufficient number of strong, well-equipped university schools with high ideals and sufficient means to realize them. The remainder of the problem will take care of itself.

As has been said, the nature of the relationship between the university and its professional departments is, in most cases at present, of the most superficial character, and opinions differ as to how intimate the connection should become. The question may be conveniently treated by discussion, in order of the relation (1) of the business management, as represented in the boards of trustees or regents; (2) of the faculties; (3) of the students; and (4) of the curricula or courses of study.

It is in the direction of the business management that the greatest advance has already been made. In many existing institutions the union in this respect is already perfected, the income of the professional school going into the general treasury and its expenses being met by appropriation from the common fund. The wisdom of this plan seems scarcely to admit of argument, provided always that the governing body is composed of fair-minded, capable men of affairs, and is advised by a liberal-minded and wise university president. It is of especial importance to the medical school because only under some such arrangement, where the control of its affairs is vested in a body of disinterested, experienced men of affairs, commanding the confidence of the public, may we hope to secure the liberal endowments or appropriations which have become indispensable because of the enormous and increasing cost of medical education. The independent proprietary school, where the same body of men, as I have heard it expressed, "walked out of one door as the faculty, and came in through another as trustees," could have little hope of procuring large endowments. The tendency more and more among philanthropic men of great wealth, is to give to strong institutions which have demonstrated a capacity to put such money to wise uses and to secure the largest possible returns in usefulness to the world. Then, too, combination is the order of the day; co-operation through combination is the keynote of modern industrial progress and success; and while in corporations organized for profit the "trust" has brought some evils, and opinions may differ as to the ratio between the sum total of its advantages and disadvantages, no one may question the fact that great economy and increased efficiency have resulted in many directions. Practically all of the evils or industrial combinations are associated with their profit-yielding character. In corporations organized with no reference to dividends, but solely for a benevolent or educational purpose, there is little danger that these evils will be experienced, while the advantages may be realized in full measure. Among these are economy of administration, economy in buildings, equipment, and teaching force, and the benefits of co-operation of all of the resources of the institution in accomplishing the variety of purposes for which it exists.

The relationship of the faculties of the university and its several professional schools has in no case, so far as I am aware, been at all intimate. Even in the universities which have had strong professional schools from their foundation, the faculty of the latter is an independent body, conducting its own educational affairs, in its own way, no member of the university faculty, excepting the president, ever meeting with them or having any voice in their deliberations, while, on the other hand, the professional faculty does not, at least with rare exceptions, meet with the university faculty or have any influence in the general conduct of the institution. Surely this is not the most advantageous arrangement. Questions must constantly arise in the conduct of a great university where the special knowledge and experience of a medical man, of a lawyer, or of a professor of the theological school may contribute materially to their wise solution; and, while it is true that the immediate conduct of the medical school must be accomplished by its own faculty, many problems, especially of pedagogy and of government, would be illuminated by the special knowledge and wisdom of the non-medical members of the university. The modern university, moreover, is not merely an institution where students are taught and investigations are carried on: it is the one place of all others in our present-day world where there are gathered a large body of highly trained men of great intellectual power, each one of whom possesses an exhaustive knowledge of some special subject, few of which are of mere academic importance, but which come into direct and vital relation to the problems of modern society. A great and important function of the university should consist in the consideration by its faculty of the practical problems which are constantly arising in the community,—political, social, economical, hygenic, ethical, religious, and otherwise; and in the discussion of such problems every department of knowledge and accomplishment may with advantage be represented. To my mind, therefore, the medical teachers should constitute an intimate, integral part of the university faculty, sitting in its councils and having a voice in its deliberations.

Of even greater importance is the participation of the medical student in the life and activities of the university—his free daily mingling with the students of the other departments. It has been a great loss to the majority of American medical students of the past that they have missed these associations, and the old-time medical college affords a very poor and unsatisfactory substitute, notwithstanding the effort of these schools, in recent years, to create something akin to the university life by the encouragement of athletics, the provision of gymnasiums, reading-rooms, and the like, and the organization of medical Greek-letter fraternities. May we not attribute to this fact, in part at least, the evolution of some of the medical college customs and traditions which have brought discredit upon the very name of medical students, and left their mark on not a few of them? A few days ago, in an address at the commencement exercises of the College of Physicians and Surgeons in Chicago, President Draper of the University of Illinois rather sharply arraigned the medical profession for certain of its shortcomings. He said: "The scientific knowledge and the mission of the doctor of medicine should combine to make him the best exemplar in society of physical, intellectual, and moral cleanliness. Yet I see doctors every day who need a bath, whose very clothes should be burned, and if they were to go with the clothes the world would not be moved deeply nor sorrow long. Often the breath is foul, and evidences are not lacking of the grossest violations of all sane and healthful living." Can we wholly deny the justice of this stinging indictment, or can we absolve ourselves from the imputation that the responsibility for these things is chargeable in considerable measure to the medical colleges where such men were trained? And yet, as President Draper further says, "The medical profession stands in exceptionally close relation to its clientele. The doctor knows the innermost secrets of our lives; he scarcely waits at the door as he pushes his way into the innermost chambers of our homes; he is admitted to the most sacred recesses of human feeling, and trusted with the hopes and fears, the loves and perils, of family life. The man who offers himself for such relationship while destitute of moral genuineness is a dangerous factor in society."

Is not the atmosphere of the real university much more likely to make for "moral genuineness" than that of the traditional medical college? The university is not merely a place for the acquisition of knowledge or even for the training of one's faculties by the scheduled courses: it is a place where a certain life is to be lived, and life-long friendships are to be formed; where high aspirations are to be born, and noble ideals set up; where one is to catch an inspiration to high thinking and right living; and, above all, is it a place where, by these and other means, character is moulded. Can there be any doubt that the university, with its many-sided life, its diversified interests and large opportunities, is more likely to develop for the majority of individuals the broad, strong manhood which must be the foundation of every successful professional career, than is the isolated professional school? I have had some opportunity to observe the effect upon medical students of the environment of a great university during the past two years, and I am sure I voice the sentiments of my colleagues when I say that change in the character of the students, and in their general conduct, as well as in their spirit and attitude toward their work, has been very great indeed. I believe that you who have had the advantages of such a university life and atmosphere during your medical course would agree that it has contributed greatly to the enjoyment as well as to the effectiveness of your work. To the medical student who has had no previous college experience, the advantage of pursuing his professional studies under such conditions is of very great value. The college student who comes to his medical work after such an experience, will especially prize the opportunity to continue his studies without interrupting the delightful associations already formed. I count as one of the greatest gains accruing from the conduct of the medical work under such conditions as obtain in your university the broadening, ennobling influence of the university life.

The relationship which the curriculum of the professional school should bear to that of the university presents two phases: first, Should the requirements for admission to the professional school demand any, or all, or a part of the college course? and, second, Can a portion of the branches of the professional course, as now constituted, be given with advantage in the collegiate departments of the university? About these questions, and especially the former, the recent discussions have mainly been waged. There is a substantial agreement that the question of time is an important consideration, and that, as a rule, a man should begin the actual practice of his profession at the age of twenty-six or twenty-seven, and, too, as Dr. Barker has well expressed it, the student should come to his professional studies with a "certain plasticity and youthful enthusiasm." "He should not be over twenty years of age; he ought not, at any rate, to be over twenty-one." On the other hand, it is pretty generally agreed that as much as possible of the sort of training which the college course is designed to give, should be had by the student before he takes up his professional study, and though this might not be so generally conceded, that this college work should have included certain branches which afford a needful preparation for the special professional work to be undertaken; for medicine, let us say, chemistry, physics, some Latin, English, French, and German, mathematics at least as far as trigonometry, and some biology. How are these somewhat conflicting desiderata to be realized? Three courses are proposed: 1. That no college work at all be demanded as an admission requirement, but only the completion of a thorough high-school course, or that an examination in whatever branches are deemed necessary, be demanded. 2. That a bachelor's degree be the minimum requirement, but that the college course leading to this degree be so arranged that it can be completed in three or even in two years. It is frankly conceded by some who advocate this exaction that it is not possible to apply it to all medical or other professional schools. 3. The third solution consists in what has been called a telescoping of the two courses where they overlap, or, in other words, of allowing certain of the branches which are fundamental in the professional course and are also included in the arts or science course to count toward both the college and the professional degree.

The first plan has perhaps its strongest advocate in President Hadley of Yale, whose chief arguments in its favor are that the requirement of a college degree by the professional school "will tend to lower the standard of our collegiate degrees," and that such an exaction has a "tendency to shut out boys whose fathers have no money from the practice of these callings." There seems certainly some force in the first contention, when we remember that already at Harvard and at Yale it has been made possible for the student to complete the collegiate course in three years, and that other colleges have announced their intention to follow suit, while President Butler of Columbia proposes the still further reduction of the course to two years. President Hadley seems to fear that this pressure may ultimately become so great that the arts course will be compressed to the vanishing point until the American college entirely disappears as it did in Germany four hundred years ago. On the other hand, as President Eliot has replied, the college course seems even more likely to disappear if it is not demanded as a prerequisite for the university professional school—if it has not, in other words, a direct practical application in addition to what is, as one might style it, an ornamental function. It does not seem to me, however, that the exaction of the whole college course or of the bachelor's degree is indispensable to this end; but of that, another word in a moment. The argument that the requirement of an adequate preparation for professional study is likely to work injustice to the student in poor circumstances, seems to me wholly invalid. If, in the strenuous and ever-increasing competition that now exists in the professions, a thorough education is the surest pathway to success, then it is unjust and harmful to any student to encourage or even to permit him to enter upon a professional career without such a preparation. The ambitious poor young man has ever been able to find a way to secure the best education that the country afforded, and the conditions were never more helpful and encouraging than they are to-day.

The chief objection to the second plan,—the requirement of a college degree,—is the fact that it does prolong the course of study unduly. With four years consumed in the college course, four years in the professional school, another one or two years in hospital training,—for the medical man,—and perhaps a year of study abroad, the young man is fortunate who can begin his active working career much under thirty years of age. Indeed, the very fact that the advocates of this plan concede it to be impractical for many students is sufficient to lead us to question its advisability. And most of the advantages can be secured by the third plan above outlined, of combining the collegiate and professional courses into one extending over from six to seven years. The superiority of this plan resides in the fact that many of the early branches of the professional curriculum are already included in the courses for the bachelor's degrees. This is alike true of the curricula in law, medicine, and theology. Virtually the same thing has long been practiced in other professional lines, conspicuously in the engineering courses, with a still greater degree of condensation, for, while the bachelor's degrees conferred are strictly speaking professional degrees (B. C. E., B. M. E., etc.), the courses of study pursued are really combinations of the B. S. course, with the purely technical branches which are substituted for the purely scientific studies of the last two or three years. Why is the combination of the arts course with that of the medical curriculum less logical or advantageous? Of course it is understood that in introducing the fundamental medical branches as electives in the junior and senior years of the college, they are to be taught, not as purely applied or practical sciences, but as general science taught on university lines by men who are devoting their whole time to teaching and investigation in their several lines. That these teachers, some of them at least, should have taken the full medical course and have knowledge therefore of the application of these sciences in that direction, is clearly of great advantage. In this respect the conditions which obtain in the medical department of the University of Minnesota approach closely an ideal arrangement. These fundamental branches are here taught by men who have had a thorough medical training, but they are, for the most part, not engaged in private practice, but are devoting their lives to teaching and investigation along their respective lines. They are thus enabled not only to keep fully abreast with the progress of these sciences to the new knowledge of which they are contributors, but, acquainted as they are with the application of these sciences to practical medicine, they are able to illuminate their instruction by frequent references to their application. I understand, however, that the medical faculty does not constitute an integral part of the university faculty, and this seems to me unfortunate. The several other departments of the university as well as the medical department can hardly fail to lose something of advantage by this arrangement. Are the sciences of chemistry, physics, anatomy, physiology, histology, embryology, bacteriology, and even of the fundamental pathology and pharmacology less scientific or any less useful for the purpose of mental training when pursued by the prospective medical man than when studied by one who is ultimately going into some other vocation, or than the sciences of geology, astronomy, or paleontology? If there be any force in the contention that the courses allowed credit for the bachelor's degree should be taken solely with a view to their purely educational value, may not one reply that not one student in twenty reaches this period of his career without having decided upon his vocation and that he would be foolish indeed if he did not select his studies with a view to their utility for his purpose? Says President Eliot: "The doctor is a naturalist, and he needs from the time he is twelve years old to cultivate his mind in the naturalist direction. Just so with a lawyer. If a man is going to be a lawyer he needs to study certain things which are at the root of his calling, as well as the technical professional subjects of his later years." "There is a method," he proceeds, "developed in our country of accomplishing these objects. Some of these institutions call it the elective system, and some call it the group system. Either will do it in a college and either has done it in American colleges, and somehow or other that thing has got to be done. Why? Because there is no line between culture subjects and professional subjects. There is absolutely no line. I read the other day an admirable definition by President Hadley of what we wanted the college to effect, not the professional school—presumably Yale College. He said we wanted to teach the college youth civic duty and religious earnestness and breadth of mind and religious aspiration; he wanted to teach him public service as the root of American life and therefore of American education. Now, that is true as gospel, gentlemen. It is the educational gospel. But in my judgment it is not the gospel of the American college only; it is the gospel of American education from the primary school through the professional school; and I know no subject betted adapted to develop the sense of civic duty, of public service and of moral and religious earnestness, than the subjects taught in the medical school."

This statement of President Eliot is a very striking one, and if it be accepted it seems to me to grant all the premises upon which rests the argument for the combination of the collegiate with the professional course. I do not quite see how, if these premises are granted, one can resist the conclusion.

The study of the fundamental medical branches as general science on the broad lines of the university plan, is of the greatest possible advantage from the purely professional standpoint. May I venture to quote what I have previously said in another connection:

"Medicine is applied science. Its practice consists in the application of the principles, facts, and methods of chemistry, anatomy, etc., to the study and treatment of the diseases and accidents of the living body. In the pursuit of an applied science it is surely the logical method to master the general principles and methods first, and to proceed therefrom to a study of their application in any specific direction. Fundamentally, the chemistry which the physician needs to know is quite the same as that required by the metallurgist, the manufacturing chemist, the pharmacist, or one in any other vocation where chemistry is concerned. It is only in the application of chemistry along these special lines that the methods differ.

"The medical school has for years been attempting to teach its students the fundamentals of chemistry and their specific application at the same time. In the short course of two five months' sessions there seemed to be no escape from this. But what was the result? The student, crowded for time and jealous of every minute, sought to learn, as his professor sought to teach him, those isolated facts of chemistry which seemed, at the time, to have most direct bearing on medicine. Yet no teacher, however wise, much less any student, could possibly anticipate the chemical knowledge which might be of medical import a few years in the future, in the rapidly-progressing art and science of medicine. The result was a half knowledge mostly soon forgotten. If the medical man is to have a groundwork in chemistry which will enable him to keep abreast with his profession, he must be so trained in the fundamental facts and principles as to enable him to keep in touch with the advances in that science, to read its literature intelligently, and to apply the frequent new discoveries to his daily work. To illustrate: Ten years ago the remarkable facts of physical chemistry relative to the behavior of mineral salts in very dilute solution—the so-called ionic condition of matter—would have been pronounced by any chemist as among the most theoretical and impractical facts of that science, yet already the investigations of Loeb and his pupils have demonstrated these facts to have a most important bearing on physiology, pathology, and pharmacology. Indeed it is not too much to say that these facts of physical chemistry, which we owe to Arrhenius and van t'Hoff, offer an apparent promise of a solution of more problems in the fundamental and practical medical sciences than any others now known to us. Few physicians trained by the older methods of the medical school, have been able to keep pace with these developments or even to read them understandingly, but to the medical man who received an adequate training in chemistry in a college or university they present little difficulty.

"What has been said in reference to chemistry is equally true of anatomy, both gross and microscopic, of neurology, embryology, physiology and physiological chemistry, of bacteriology and pathology. Studied primarily in the atmosphere and by the methods of the university the groundwork of these sciences is laid in a broad and comprehensive manner, which enables the student to follow their progress in later years, and their specific application to medicine and surgery is easily acquired. Pursued in the illogical, unsystematic manner of former years, they are never mastered, and too often the physician soon wakes to the unpleasant consciousness that the facts acquired at such a laborious expenditure of time and energy have most of them flown from his memory. Not only has he failed to keep abreast with the newer knowledge, but he has forgotten the old. Life is too short and time too precious to be wasted in memorizing facts that must soon be forgotten."

There need be no fear that this combined course will in any way lessen the significance of the bachelor's degree if these fundamental medical sciences are taught along university lines in the comprehensive and thorough manner in which the other branches in the university curriculum are taught. The bachelor's degree no longer stands for the completion of a definite, uniform course in the classics, mathematics, and philosophy. If, indeed, it ever did signify such a thing, the elective system has entirely abolished such a possibility. Nor does it signify the acquisition of a certain measured amount of information. It stands for a certain degree of mental training and development, not a constant, uniform quantity to be sure, but one which differs in different institutions and changes with the passing years. The element of time, too, is not without some significance, and the fact that any student, be he exceptionally bright or duller than the average, has spent a certain period (four years is none too long) in the atmosphere of a college or university, with a definite purpose, cultivating his faculties by the methods and along the lines there prescribed, constitutes a most important factor in estimating the significance of the degree conferred upon him. A course of two years or of three can not have the same value or significance as one of four. The student who is not preparing to take up a professional course demanding two, three or more years beyond the college curriculum, can well afford to spend the four years which have so long been considered the standard of value for the bachelor's degree. The student who has undertaken the longer period of preparation required for a profession, is enabled by the combined course to secure all of the advantages of the college course without unduly prolonging his total period of study.

If the fundamental branches of the medical curriculum are taught in this thorough manner, —if the student comes to the clinical branches trained in the habits of methodical, accurate scientific investigation, and completely abreast of the knowledge of his day in anatomy, physiology, pathology, etc., what is going to be his attitude toward his clinical study? What is he likely to demand of his clinical teachers? Is he not practically certain to apply to these branches the same critical methods of observation and analysis that he has acquired in his fundamental work, and will he not expect to find the same methods in use by his clinical instructors, and the same opportunities for exact and exhaustive study of the problems presented that he has enjoyed in the laboratories for the fundamental sciences? Needless to say he will find the problems presented very different from those with which he has been dealing, much more complex, with many unknown factors, and not permitting therefore of as exact and definite a solution. But making due allowance for these things, is he likely to be satisfied with the conditions and methods which at present obtain in our clinical teaching? That hardly seems probable. No! the existing methods and facilities by which our clinical teaching and investigation have been conducted must shortly be revolutionized. The university medical school must have hospitals under its absolute control, with clinical professors, some of whom devote their entire time and energy to teaching and research, with thoroughly equipped laboratories for the exhaustive investigation of the problems which arise in connection with these clinical cases. This does not mean that the existing, unattached hospitals will not be utilized and in a larger, much more effective manner than at present; nor does it mean that there will be no room for the clinicians who are at the same time in active practice. Such men will have a greater and more useful field of instruction than they at present occupy. These two groups of teachers will work hand in hand, each supplementing and assisting the other. The needs and the possibilities of the clinical branches have been so well set forth by Dr. Barker in his paper on the "University Medical School," and by Dr. Billings, in his recent address as President of the American Medical Association, that I need not further trespass on your time in this connection.

In conclusion, let me say that never were the possibilities of the medical profession for usefulness to the world through the application of existing knowledge and of further discoveries which are so certain to be made in the near future so great as they are to-day. The ability of the profession to make this knowledge effective through the education of the public and through legislative enactment as the expression of an enlightened public opinion, depends in the main on the standing of the physician in the community and the degree to which he may be able to impress his ideas upon the people composing that community. And, again, these factors are dependent upon his intellectual ability, his culture, his catholicity of taste and interest, and his breath of view—upon those qualities, in a word, which bring him into close touch and real sympathy with the many and varied interests represented by his fellow citizens. These qualities are, in the main, the product of a broad and liberal training, such as is afforded nowhere so well as in a university. The conditions of the time warrant and demand that no person shall be permitted to enter upon the practice of medicine without such a training as can be obtained in a university medical school, such as I have endeavored briefly to describe. Or, rather, as I prefer to put it, no young man can afford to enter the profession of medicine, already overcrowded with the sharpest kind of competition to be met, and the large and increasing demands which an intelligent public are imposing upon a physician, with any less thorough preparation than the university school affords. I feel sure that you, gentlemen, who have enjoyed the superior facilities and the inspiring atmosphere which this splendid and growing institution has given you, will so advise those prospective medical students with whom you may come in contact. All of the professions are crowded, if we may accept the testimony of those already in their ranks, but there is always room at the top. A learned profession is a noble calling and demands broadly educated, thoroughly trained men for its successful pursuit. Let us all agree that in practice, as well as in theory and precept, we will work together to the end that no other sort of men shall enter the profession of medicine.

NIHILISM IN THERAPEUTICS IN ITS RELATION TO PHARMACY*

By Richard Olding Beard, M. D.

Professor of Physiology, University of Minnesota

MINNEAPOLIS

Mr. President and Gentlemen:—

It seems like a far call from the days when the doctor was his own pharmacist, compounded his own prescriptions and carried his own drugstore in his own saddle-bags to the day in which colleges graduate pharmaceutical chemists and doctors of pharmacy, when state boards license druggists and when great laboratories of chemistry and bacteriology are required for the manufacture of therapeutic agents of every description. And yet, while we move in the ever widening circles of human progress, the slow meridian's curving which constantly and inevitably carries us onward as constantly and inevitably leads us back, and thus revolving we come here and there to points at which the shifting radii of our movements coincide. Such a point of coincidence we approach in the progress of pharmacy. The drug-doctor of the past was a professional man. The pharmacist of to-day is confronted with the opportunity to elevate his calling to the rank and dignity of a profession. In fulfilling his destiny he will but be true to the obligations of his birth. His ancestry was in the aristocracy of learning. The early type of the pharmacal physician, who presents so picturesque a figure to the imagination of to-day, who has been so faithfully portrayed by Ian McLaren as the hero of "The Bonnie Brier Bush," was the parent of children who have been the subject of a remarkable variation of species. He underwent a process of reproduction which the histologists term that of cellular division. The one segment of him developed into the practitioner of medicine; the other segment into the practitioner of pharmacy. In the process, both parts of him have passed through certain difficult transition stages and have presented some very odd perversions of type. His dual offspring exhibit still the features of a common origin; their relationship is still apparent and persistent; occasionally each displays a tendency to reversion to the mutual type; their common environment has widened into large room for each, but there remains a border-land of heritage which they still share. It is still true that any condition of growth which materially affects the one, must also seriously affect the other; nay, for the determining causes of conditions which obtain in either, the two callings may be and often are jointly responsible. Certain it is that no condition which arises within and largely influences the trend of progress in the one profession can fail to make itself felt, sooner or later, in the other. And such a condition, of mutual creation, of dual consequence and of growing significance, confronts both your calling and mine to-day.

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*An Address delivered before the Minnesota State Pharmaceutical Association, New Ulm, June 17, 1903.

A spirit of nihilism in practical therapeutics is abroad in the medical profession, and it is growing great. A disbelief of the value of drugs is entertained by some of the best minds in medicine. Like all forms of radicalism, it is in the nature of a violent reaction against an unsound and an unscientific faith. Its mischief is not in the sacrifice of that which it destroys, but in the accumulation of the debris of destruction which it piles in the path of the progress of scientific medicine.

A scepticism of prevailing methods in the treatment of disease cannot long obtain in the mind of the medical profession without conveying itself to the mind of the public. Unfortunately, the popular mind, bereft of high authority, turns quickly to the worship of false gods. The molten image was the answer to the vagrant need of the people, growing out of the long absence of the Moses of their deliverance in the mount. The mass of the people follow a leader in whose inspiration they believe, but let the guide falter or disappear, and they wander away into a wilderness of distrust.

The distrust of empiric medicine, which has unquestionably communicated itself from the professional to the public mind, has been too suddenly felt. The authority of scientific medicine has not yet been recognized to the point of popular leadership. The sheep who have no shepherd readily answer to a strange call. The hireling in medicine has seized his opportunity. In the soil of distrust of established methods, he has planted the mushroom growths of false theory. New systems of healing have grown up in a day and among them, most marvelous in its exotic type, is that which denies the very nature of the material existence from which it derives its support, and which lifts its head into the thin ether of the dim and distant nebulæ of truth which are gathered into the obscure hypothesis of Christian Science.

Therapeutic nihilism is a condition which confronts us, for the causation of which we have to fix the responsibility and for the cure of which we have to provide the means.

Firstly and frankly, let us acknowledge the responsibility which attaches to the profession of medicine. The empiricism of the medical practice of the past—an empiricism which is still but slowly giving way before the advance of scientific medicine—has been a potent factor in the development of this prevailing agnosticism. The ultra conservatism of medical educators who have clung tenaciously to the traditional teaching of a commonly disused materia medica has been another and a baneful influence in conjuring forth this evil spirit of nihilism from the dead sea of worthless and discarded drugs. Until we teach and prescribe the use of therapeutic agents upon the basis of their physiological action alone, a physiologic action taught and learned by laboratory methods of study, until we officially consign a large part of the pharmacopeia to an index expurgatorius of materia medica, we need not marvel at the active spread of professional and popular disbelief and we may argue in vain against the mischievous contention, the common stock in trade of ephemeral systems of healing, that the practice of medicine is simply and solely the administration of drugs. The recent failure of the commission charged with the revision of the U. S. Pharmacopeia to use its opportunity of expurgation is a subject both for wonder and regret. But while we freely admit the responsibility which the medical profession has incurred for the agnosticism within and without its own ranks, which must long remain to vex the disciples of the new gospel of scientific medicine, we cannot but recognize gravely the injurious part which pharmacy has played in energizing this tendency to disbelief, and that to its own hurt.

If I shall bring against your calling a stronger indictment than I have brought against the profession of medicine, for its share in the parentage of this mischievous product, let us be reminded that some of your own leaders have already plead guilty, in your behalf, to the charge and have joined with us in an earnest effort to bring forth fruits meet alike for your repentance and for ours.

This indictment may be very briefly stated; it is this: That pharmacy which has always deserved and in many periods of its history has achieved a place among the arts,—that pharmacy which had its birth in and must yet fulfill its destiny as a learned profession, has permitted itself—and particularly in America—to degenerate into a mere trade. The contagion of commercialism has crept into your calling, even as it has, although perhaps with less disaster, into our own.

The proof of the indictment is to be found in the men, in the methods and in the materials you employ.

In the *men*—for you have filled the ranks of your should-be profession with imperfectly educated and poorly trained recruits—with unfit men who are impatient to make money in its employ. We of the medical profession live in houses too largely made of glass to throw any unkindly stone at you in this accusation. We, too, have sinned, in this regard, to our own infinite prejudice in the past. The results are upon our statute-books. We congratulate ourselves upon these legislative enactments, but they are criticisms of our past history.

The laws which regulate the practice of medicine and pharmacy are evidences of our disposition to reform, but they are not complimentary to our general character. It has been necessary, for the protection of the public, to put these professions under the police power of the state. These regulative measures are reformatory of existing evils among us, perhaps, but should the time ever come when these professions shall have reached their ideal of fitness, practice acts and state boards of examiners will have survived their day. Indeed, during the several years in which I have been actively concerned in matters of medical and sanitary legislation, and in which I have seen the health interests of the state suffer in the hands of venal or ignorant legislators, whose average of intelligence is far below the level of the professions whose responsibilities they seek to regulate, I have entertained a gathering doubt of the merit of many of these restrictive measures and have inclined to a belief in the superiority of the Massachusetts plan of leaving the professions to work out their own salvation, upon the principles of natural selection, unaided and unhindered by the law. So long, however, as the legislative control of the health interests of the state is necessary, it should be safeguarded by the co-operation of the legislative representatives of the state societies of medicine, of pharmacy and of dentistry, and of the State Boards of Examiners and of Health. And so long as state legislatures are as ignorant and as ruthless of those health interests as they have proven to be, these representative bodies should join in a demand that their consideration be submitted to expert commissions appointed by the governor of the state which shall report desirable legislative measures.

In the matter of *methods*, by which your professional welfare and ours have been diminished for the sake of a current commercialism, two or three major sins appear. You have too commonly permitted your licensees to prescribe as well as to dispense drugs. You would doubt the scientific quality of the physician who without examination or inquiry into the conditions of his patient should prescribe a remedy, and yet as a matter of mere gain the practice is a current one over the counters of the pharmacy. Needless to say that if the health of the patient does not suffer, his therapeutic faith does. You have frequently encouraged the practice of repetitionally filling prescriptions, often for miscellaneous employment, without orders from the writer. Perhaps nothing has so actively undermined the confidence of the public in the efficacy of drugs as the habit of passing around remedies and prescriptions without reference to the variation in the sufferer's needs. And this habit has been encouraged by the refilling of prescriptions.

In the matter of *materials*, the indictment is fully as serious a one. You have not always required a sufficient guarantee of the quality of materials to the use of which your customers have committed their faith. A want of uniformity in the pharmaceutical preparations you dispense has prejudiced the possibility of a systematic study of their effects. Standardization of drugs is a very imperative need.

You commonly keep upon your cabinet shelves preparations of whose composition you know little or nothing, whose virtues only the advertisements allege, of whose adaptation to the needs of patients you and they are alike ignorant. Members of your calling have been known to influence legislators against the enactment of laws to regulate the sale of these preparations and to convert all patent into proprietary medicines. In certain states of the Union, measures have been enacted which require a formula of percentage composition to be printed upon the label which every preparation bears, and the pharmacists of Minnesota cannot do a better service to the public health than by combining to secure such legislation in the face of the powerful lobbies which the patent medicine manufacturers and a commercialized newspaper press will always put into the legislative field.

These, gentlemen, are the conditions, perhaps the legitimate conditions of trade upon which this indictment is framed. Their business morality I shall not discuss, but these methods have been, in themselves, very largely responsible for the therapeutic confusion into which the drug treatment of disease has fallen, for the discouragement which scientific men feel in the determination of any accurate results of the remedies they employ, for that distrust of medicinal agents which has infected the mind, both of the medical profession and of the public, in later years. As I have said, they are the methods of trade, but they are not the principles of a profession, and I submit it to you that until the basal *ethics* of a profession are established, and firmly, its educational standards cannot determine its place, as a calling, among the higher cults.

If these, then, are the conditions which are, in part, responsible for the therapeutic nihilism of to-day, what may be said of the possibilities of cure in the hands of the pharmacist?

As a co-operator with the men and women of to-day who are preaching and practicing the new gospel of scientific medicine, the professional pharmacist may do much toward the removal of this agnostic tendency. As a public teacher he unconsciously fills a position of exceptional vantage. He is the direct purveyor to the people of the means of therapeutic relief, and he can do much to direct their intelligence to the choice of scientific measures and to the tutelage of scientific men. To the accomplishment of this difficult task, he must bring high ideals of professional responsibility and a high quality of professional training. These two essentials are closely relational. Much sympathy may be given to the argument that a higher education will put the rising generation of pharmacists upon a higher plane of social relation, will lift them to that higher conception of public duty which the leaders of their profession already entertain. A large dignity unquestionably attaches to a calling, admission to which requires a large preparation and demands a lofty endeavor. The pharmacist must broaden the base upon which he builds. Pyramids may vary in their height, but the height is always commensurate with the base; the smallest of them cannot stand upon its apex. An academic education is none too broad a foundation for the profession, either of pharmacy or of medicine, and I question whether the one will not be bettered by its attainment as much as the other. Such an academic course should not and need not occupy four years of time. The University of Minnesota has just followed the admirable example of the University of Michigan in the establishment of a six years' course of study leading to the combined degrees of bachelor of science and doctor of medicine. Two years of this course are spent in the college of science, literature and the arts and in the study of a minimum of mathematics and a maximum of general science, including biology, chemistry, botany and physics, and of the languages which are most contributory to the literature of medicine. The remaining four years' work is pursued in the college of medicine and surgery, where medical chemistry, human anatomy, histology and embryology, physiology, materia medica and therapeutics, bacteriology and general pathology employ two years and the clinical branches of medicine the remaining time. Similarly, for the pharmacist such an academic course should be directly relational to his technical studies. It should give him the scientific discipline he needs in preparation for his applied work. It should make him a scientist in general, before he becomes a scientist in particular, and then he might fairly be expected to emerge from his professional training a finished student of the botanical and chemical qualities, of the physiologic action and of the remedial relations of the therapeutic agents he supplies. His strictly professional study should be elaborated in the direction of a more thorough command of the subjects of physiology, pharmacology, toxicology, bacteriology, hygiene and sanitary chemistry, in which the brief courses of to-day are altogether insufficient.

A generation of men and women, so initially equipped and so technically trained, would give to the profession of pharmacy a body of experts who would, by force of their own intrinsic power, speedily restore their chosen calling to its proper place among the specialties of medicine and if it should remain, as in some of its relations it must remain, a department of trade, it would be a trade dignified to a profession by the fitness of its followers and purged of those practices which tend to-day to lower its place, to lessen its influence, and to sow the seeds of therapeutic distrust alike in the professional and in the popular mind.

If to such a profession quality in the calling of the pharmacist, shall be added the further and finer touch of art, which has already done so much to develop the useful adjuncts of his business and to contribute to the esthetic enjoyment of his patrons, he will thereby become still more an educational factor in the community, adding beauty to use in his relation to its needs and in the evolution of the means of health preservation—an end of even nobler purposes than the development of the agencies of cure. There are few callings, indeed, which afford the cultural opportunities which the science and the art of pharmacy possess.

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POSTMORTEMS A NECESSITY

The sentiment that the people entertain toward postmortems is a stumbling block in the way of advancement in medical science. The daily press is more in favor of publicity in this direction, and is doing a great deal toward the education of the masses in favor of autopsies. The journal of the A. M. A. has an able editorial in its issue of Sept. 5 upon the subject.

A newspaper has called attention to the necessity of making autopsies for the benefit of the law-maker, and to weed out criminally ignorant doctors, as well as to add vastly to medical knowledge. The true physician is ready at all times to investigate the cause of death even though it temporarily causes him embarrassment and confusion by the exposure of his mistakes in diagnosis.

A properly conducted autopsy is no more revolting than embalming or cremation, yet the sentiment is strong enough in the minds of the laity to prevent the investigation of cases that would be of immense value to the physician in increasing his knowledge and aiding him in the treatment or diagnosis of other cases. Compulsory autopsies would do away with much of the vivisection of to-day, although it would not entirely abolish it.

Too often the practitioner is sure of his diagnosis, and passes lightly over the necessity of a postmortem. The table examination reveals a different state of affairs, as many of us have observed. The physician may be chagrined at his error, yet the information he gains will repay him in the treatment of others. The sentiment of the family must be overcome by argument and education. The compulsory coroner's examination of those dying under Christian Science has opened the eyes of many objectors, and may be of service in enlightening the public.

THE FALL OF MAN

The average man of to-day falls below the standard of the man of fifty years ago in temperance, morality, and physique. There are many factors which have been instrumental in the production of this deterioration of the race. The effort to exist, and the wear and tear or crowded cities, with insufficient space for breathing and expansion, together with the excitement of rush and competition, is unquestionably a decided factor. As a class we are more inclined to self-indulgence, extravagance, and general intemperance, and the so-called working classes are torn asunder by bossism, socialism, and strife. Alcoholism and drug-habits among women are undermining constitutions, and promoting race suicide. Commercialism and nervous exhaustion reduce the man to woodenness. Bad air and the lack of exercise are among the really important causes for the decline of the physical organization.

Notwithstanding the marked advance in the intelligence of the race, individuality is disappearing gradually, and more persons are becoming defective, mentally and physically. Our neurasthenic class is growing, and our insane population is demanding more attention and more hospitals for their care and for the protection of others. Remedies of all kinds are presented by all sorts of doctors, and each, in turn, is swallowed by the ever-ready sufferer.

The true remedy is one that must be applied by the educators and physicians, and the coming race must be instructed to follow rigidly the laws which govern all growing things. The soil must be improved, the early rooting must be fostered, and the growth thereafter watched and guided. The young should be taught the value of regular habits, moderation, and deliberation; attention to the moral and physical laws which govern the development of the body; and the necessity of avoiding excesses, strains, and unnecessary demands upon the nervous system. Too much importance cannot be attached to properly regulated exercise. The average man thinks he performs sufficient labor in the day's work, and in many cases this is true, but in a large number of cases the beneficial exercise is neglected. The advertised methods for home exercise, taught perhaps by printed instructions, has done an enormous amount of good. Men who occupy sedentary positions need something more than a walk: they need diversity of movements to clear their blood-channels, carry away effete matter, and promote a cleansing of their tissues. Gymnasia and institutes for the upbuilding of the body should be more generously patronized, but the attendance, however, should not be spasmodic. The habit of exercise should be formed, and be continued, to accomplish good results. Too many broken-down men owe their collapse to an accumulation of poisons within the body that find insufficient exit, and the outcome is a badly disorganized nervous system.

In spite of the pessimistic view of the situation of to-day, much can be done to restore healthful states, if an incentive can be inspired in our people. The reformers who believe in exercise are not far wrong, however, for their enthusiasm may carry them in their promises to cure. If there is any one thing that will change a man's mind, and make him forget the worries and cares of life, it is persistent, wholesome exercise in the open air, preferably away from crowded thoroughfares. It cleans his body and soul, sweetens his breath, and makes him happy and cheerful, helpful and stimulating to others; and, in the end, sows the seed for a better and stronger people.

If physicians would encourage the habit of exercise their advice in that direction would be more valuable than drugs, the invalid would be resurrected, and the strong man would survive.

CAMPHOR IN MORPHINISM

Artenmeyer states that when morphine is withdrawn from an habitué it is necessary to support the heart. For this purpose camphor is a remarkable remedy, acting both as a vasoconstrictor and very energetic cardiac tonic.—La Tribune Medicale.

BOOK NOTICES

Manton's Obstetrics. A Manual of Obstetrics for Students and Practitioners. By W. P. Manton, M. D., Adjunct-Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine. In one 12mo volume of 265 pages, with 82 illustrations. Cloth, $1.00. Philadelphia: Lea Brothers & Co.

At once a collection of the facts of midwifery essential to ordinary practice and a quiz-compend on a small scale, this little book will be useful to the student both before and after he gets his degree in medicine. It contains not only the established principles of the science of obstetrics but a number of additional observations derived from the experience of the author. It is only to be regretted that there is not more of this original matter.

A Manual of Materia Medica and Pharmacology. By David M. K. Culbreth, Ph. G., M. D., Professor of Botany, Materia Medica and Pharmacognosy in the Maryland College of Pharmacy, etc. Third Edition, Enlarged and thoroughly Revised. With Four Hundred and Seventy-three Illustrations. Philadelphia: Lea Brothers & Co.

A Text-book of Pharmacology and Therapeutics. By Arthur R. Cushny, M. A., M. D., Aberd., Professor of Materia Medica and Therapeutics in the University of Michigan; etc. Third Edition, Revised and Enlarged. Illustrated with Fifty-two Engravings. Philadelphia: Lea Brothers & Co.

A knowledge of materia medica and pharmacology is becoming a rare thing among the members of the medical profession. For this several causes are responsible. The field of study has been so greatly extended during the present generation that even the practical doubling of the medical school course does not give time to cover the whole ground. Something must be neglected and materia medica has been the first branch to suffer. Again, the increased use of active principles in place of preparations from the whole drug and the substitution of pills and tablets manufactured by machinery for the old infusions and tinctures of the pharmacist has helped to push materia medica into the background until the student of to-day knows few crude drugs by sight, and would not expect to recognize nightshade or henbane if he came across it in his walks.

There is something to be regretted in this relegation to the background of materia medica with its attendant knowledge of botany. The old time physician especially the general practitioner in rural communities owed part of his reputation as a man of learning to his knowledge of plants and chemicals. When the doctor made most of his own medicines and gathered many of the plants themselves the knowledge of materia medica was as indispensable as that of anatomy and not as soon forgotten. Now even the saddle-bags of the backwoods doctor would be found filled for the most part with ready-made tablets and pills with the dose printed on the label.

The two books whose titles are given above are quite different in character although with names that sound alike. The work of Dr. Culbreth is limited to a description of the plants and chemicals used in medicine with the details of the manufacture of preparations from crude drugs. An outlne is given of the botany of each plant with an illustrated description that will enable the reader to identify a specimen. Dr. Cushny on the other hand deals more particularly with the therapeutic side of the subject. The two are thus complementary to one another and cover the subject entirely.

Progressive Medicine. June, 1903. Philadelphia: Lea Brothers & Co.

No general description of this publication of Lea Brothers is required for our readers. The introductory article by Dr. Corey on "Surgery of the Abdomen" gives forty pages to hernia. Bassini's operation is commended. Several pages are devoted to umbilical hernia without advising any definite plan of procedure. Fifteen pages are devoted to the diagnosis and treatment of affections of the peritoneum. A fine discussion is given of the rapidly accumulating literature of the surgery of the stomach and intestines. The work of our own Mayo is prominent. The use of the *x*-ray is discussed. The evidence of the value of surgical interference in obscure cases is cumulative. Perforation in typhoid is not overlooked. The gall-bladder and the coming organ, the pancreas, are discussed at length. Considerable space is given to the kidney.

Twenty odd pages are given by Dr. John G. Clark to the recent papers on cancer of the uterus without lighting particularly the dark places of this darkest of subjects. The *x*-ray at present holds the stage. The various operations for retroversions are discussed. The literature is reviewed, and an attempt made to give them their proper valuation. The pelvic inflammatory troubles are noticed at length.

Dr. Alfred Stengel gives a full review of the newer information regarding the blood.

Some interesting observations are made on Graves' disease, including a notice of iodo-ether injections, a valuable means of treatment in the experience of the reviewer.

The volume closes with a lengthy review of papers on subjects of ophthalmology by Dr. Edward Jackson. C. H. Hunter.

REPORTS OF SOCIETIES

HENNEPIN COUNTY MEDICAL SOCIETY

F. A. Knights, M. D., Secretary

A stated meeting of the Hennepin County Medical Society was held on September 7th, in the society's rooms in the Andrus building, the president, Dr. J. W. Bell, in the chair.

Application for membership was made by Dr. A. C. Tingdale, 2600 Bloomington Ave., Hamline University, 1902, and by Dr. J. G. Cross, 803 Pillsbury building, Northwestern University, 1895. These applications were read and referred the censors.

Dr. L. B. Wilson, assisted by Dr. W. M. Chowning, presented a most interesting paper on "The So-called Spotted Fever Epidemic in the Rocky Mountains," which was discussed by Dr. S. M. White, Dr. Cross, Dr. Staples, and the discussion was closed by Dr. Wilson.

Dr. H. L. Staples then presented a case of morbus ceruleus with tricuspid valvular disease in the person of a boy of eighteen years.

The society then adjourned.

GOUT IN AMERICA

True gout is only one-third more prevalent in England than in this country. The condition here is very rarely hereditary, as most of the sufferers are afflicted with lead-poisoning, or are alcoholics.—Osler.

NEWS ITEMS

Dr. J. P. Caldwell has located at Milaca.

Dr. George W. Nichols, of Milaca, has moved to Midland.

Dr. W. W. Medley, of Toronto, has located in Williston, N. D.

Dr. D. A. Smith of Keystone, N. D., has located in Rapid City, N. D.

Dr. Charles Cross, of Missoula, Mont., has moved to Rathdrum, Idaho.

Dr. D. T. Quigley, of Littleville, N. D., has moved to North Platte, Neb.

Dr. A. F. Huntoon, of West Duluth, has gone to California on account of his health.

Dr. George A. Pettigrew has moved from Flandreau, S. D., to Sioux Falls, S. D.

Dr. O. O. Benson, of Sandstone, a graduate of Rush, class of '02, has moved to Hector.

Dr. R. R. Stevenson, of Sioux Falls, S. D., has returned from a six months' trip in Europe.

Dr. H. O. Fjelde, of Abercrombie, N. D., has gone to Europe for a three months' trip, for pleasure and study.

Dr. John R. Mackenzie, of Carrington, N. D., was married last month to Miss Jessie Soliday, of the same place.

Work has been begun on the George B. Wright Memorial Hospital at Fergus Falls. The new building will cost $25,000.

Dr. W. W. McQueen, formerly of Milton, N. D., is now located at Langdon, and has gone into partnership with Dr. James Semple.

Dr. J. T. Newlove, of Towner, N. D., is in Chicago doing post-graduate work. Upon his return to North Dakota he will practice in Minot.

Dr. E. T. Sherping, of Wyndmere, who has been a patient in the hospital at Fergus Falls, for a month, sick with typhoid fever, is able to resume his practice.

The movement to establish a Lutheran hospital at Red Wing has taken definite form, and a purchasing committee has been appointed to go forward with the work.

Dr. Reinert Hetlesater, of Canton, S. D., has been doing special work at the Lutheran Deaconess Hospital at Chicago, and while there was acting assistant to the chief surgeon.

Dr. E. E. Martin, formerly of Kensal, N. D., has gone into the ministry. It is to be hoped that he will not try to substitute "divine healing" for medicine.

Dr. George G. Eitel won his case in the district court, and it is not thought an appeal will be taken. We noticed this case editorially a month ago.

Dr. M. D. Westley, of Litchville, N. D., has sold his practice to Dr. W. R. Claybourne. Dr. Westley will go to Philadelphia to spend a year in special study and hospital work.

Dr. John C. Koch, who graduated from the State University last year, has located at Thief River Falls, taking the practice of Dr. F. H. Gambell, who has gone to Chicago for special study.

Dr. W. B. McVreery, of Biwabik, a graduate of the State University, class of '02, has located in South Tacoma, and his brother, Dr. Charles McCreery, of Northfield, has located in Tacoma, Wash.

The Bayfield (Wis.) County Medical Society was organized last month. Dr. Henry Hannum, of Bayfield, is the first president; and Drs. H. S. Lampson and F. P. Hicks, of Washburn, were chosen, respectively, vice-president and secretary.

FOR SALE

A rubber-tired covered Stanhope, which was made by Babcock and cost when new $225, is now for sale cheap, and is in good condition. Address Dr. F., care of THE LANCET.

FOR SALE

A Geneva retinoscope will be sold cheap. Address Dr. H. E. Conley, Cannon Falls, Minn.

FOR SALE

$2,000 drug stock, all new and fresh; large territory; no competition. A good place for a doctor. My $1,000 practice goes with stock. Reason for selling: I have aged parents for whom I must care. Must be sold at once. Address W., care of THE LANCET.

WOMAN PHYSICIAN WANTED

Woman physician is wanted at Bethany Home, Minneapolis. An unequalled experience in obstetrics and a moderate salary are the emoluments. Applicant must be a graduate of a recognized regular medical college. Write to Mrs. T. B. Walker, Minneapolis, for particulars.

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THE EARLY SYMPTOMS OF NEURASTHENIA, HYSTERIA, AND MELANCHOLIA*

By Dwight S. Moore, M. D.

Superintendent of the North Dakota Hospital for the Insane

JAMESTOWN, N. D.

Exclusive of those cases in which malingering might be suspected the practitioner is in certain instances puzzled to find objective symptoms of a diseased physical condition. This, too, in spite of the fact of conversation and questioning having elicited numerous subjective symptoms. The patient in question has poured into the sympathetic physician's ears a flood of complaints, some of which have been of very general character, while others have pointed strongly to local disease of a particular organ. The temperature, pulse, and respiration have been found to be normal. The tongue gives but little evidence of gastro-intestinal disturbance. The appetite is fair, the bowels perhaps normal, though usually constipated; and the sleep usually disturbed, though it may also be quite natural in character. There is seldom a specialist so busy as the physician in general practice. He is usually busied with cases also about the actual pathology of which there can be but little doubt. When he meets with a case of the kind described above it is a temptation to him to regard the disease itself as imaginary, and the depressed mental condition and countless subjective symptoms as due entirely to the patient's brooding over his own condition. A tonic is usually given, first in conjunction with laxative treatment or some artificial aid to digestion, and no doubt this is of some advantage to the patient, a little temporary improvement often ensuing. The sedatives, the valerianates, bromides, etc., are prescribed later, and then it is that the physician often loses something of his interest in the case. In the first place, such patients take up considerable of his time, for they are apt to be communicative on the subject of their numerous symptoms. They are apt to be capricious and to find fault with the medicine and the regimen prescribed for them. Weeks, perhaps, go on, the patient is discouraged, and the physician finds himself struggling against a secret impatience at the continuance of the case in his practice. He is apt to think that a little ridicule or curtness may be wholesome, and sometimes he goes so far as to express an opinion that there is nothing at all the matter with the patient, and that if he would quit thinking about himself so much, and resume the ordinary duties of business or domestic life, he would soon be all right again. Personal encouragement of an intelligent character temporarily stimulates some patients of this class, but it takes a great deal of the practitioner's time, draws upon his patience and his reserve force, and in some instances appears wholly futile. Often the patient's attendance at the office is rather discouraged, or the physician's calls become more and more infrequent, and he is quite apt to lose sight of the case altogether after the lapse of a few weeks.

These cases are almost invariably afflicted with one of the diseases enumerated in the title article, and require more sympathy and personal attention than they really get, although I would not be considered as condemning the overworked men who have not the time to give them. An intelligent, trained nurse, accustomed to the care of such cases, can relieve the physician of much of the personal attention and encouragement which these patients require from some one in authority. As in many other diseased conditions, however, the nurse is not accessible, or the patient's circumstances do not permit of securing the services of one. One thing is certain, that the slight brusqueness of manner or the tinge of sarcasm with which the physician often discusses their hypochondriacal fancies does not do any good. The patient is apt to be driven to the office of some other physician where time is wasted with more tonic and bromide. The patient continues to suffer, and later falls into the hands of some quack of attractive advertising phraseology, or later we read of his seeking the seclusion of some sanitarium or of his being committed to a hospital for the insane. These patients often look well, and no organic disease can be found on close examination. Their complaints seem ridiculously absurd in comparison with their superficial appearance of health and the tendency is to grow impatient with them, rather than to pity their distressed condition.

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*Read before the Aberdeen District Medical Society, Aberdeen, S. D., Sept. 15. 1903.

If the general practitioner had time, with perhaps a little more special instruction in neurology or psychiatry, he would undoubtedly take these cases more seriously, study them, analyze them, diagnose them with precision, and in consequence shorten the period of the disease in recoverable cases, and contribute to the comfort of both patients and relatives in all cases. The importance of an early and precise diagnosis in obscure cases of this character can hardly be overestimated. A plain statement to the patient, and usually to his friends, of the nature and probable course of his illness, is of great importance to them and will certainly redound to your credit in time to come. It is more directly of interest to you that an early diagnosis be made in order that you may adopt correct therapeutical and disciplinary measures at the outset, if the case is to continue in your charge. In those cases requiring institutional care the sooner they are committed the better, as far as the prospects of recovery are concerned.

People differ so much in disposition and so-called temperament that the estimate of irritability as a symptom of disease requires a very delicate exercise of judgment on the part of the physician. Some are habitually irascible, and it must be confessed in some cases that the unpleasant quality is united with much energy and capacity for work. Nevertheless, it cannot be too strongly emphasized that undue annoyance over trifles, at first kept well controlled, but later manifesting itself by outbursts of passion, is a danger signal. If reported by the patient it should never be overlooked. In a case of neurasthenia this is usually the first mental symptom, and of course if occurring in a person of naturally mild temperament is the more significant. The nonexistence of this symptom does not necessarily exclude neurasthenia, as we occasionally find cases in which the individual is unusually phlegmatic, inclined to be drowsy, and indifferent to his environment. Of course this latter type of person is not so apt to present himself at the office for treatment. In either type we find a rapid dimunition in the power of doing work, especially of any kind calling for the exercise of the higher mental faculties or that of an executive character. Easily aroused and unduly prolonged sense of fatigue is associated with decreasing powers of accomplishment. The patient has keen insight into his mental defects, and may be very hypochondriacal and apprehensive. Later, cephalalgia, insomnia, and other local functional disorders of different organs appear. Many of these symptoms are of course present in the other diseases under consideration. In congenital neurasthenia the symptoms are psychical only, being distinguished in this way from hysteria, in which the physical symptoms are often of prominence.

Having excluded the possibility of organic disease of the brain or nervous system and found no evidence of any psychosis, it is due the incipient neurathenic to have a simple, candid statement of the nature of his trouble. Full justice should be done the great subjective discomforts of the disease, in order to make him feel that you have not under-rated them. He should be told that by patience and perseverance in the proper course, recovery from his fundamental nervous disorder will probably finally ensue, and this assurance from one in whom he has confidence will do much to sustain the nervous invalid through many trying hours to come. If, however, in the investigation of the antecedent history of the patient, we ascertain the existence of previous attacks of varying symptomotology, including ecstatic conditions, and alterations of sensation with convulsions or paralysis of a functional character, suspicion points at once to the presence of the constitutional vice known as hysteria. And, probably, the basis of the symptoms complained of will be found in this condition. In four-fifths of the cases of hysteria we find a defective heredity. This fact is valuable in the study of the cases of young persons in whom there is an absence of previous crises. Certain mental stigmata may be recognized very early in life, and the recognition of these stigmata and the application ot the proper methods of physical and mental culture to antagonize the tendencies to the development of hysteria, form at the same time one of the plainest duties and the most perplexing problem of the family physician. In addition to the above stigmata the existence of unnatural religiosity, sudden causeless alterations in emotional attitudes, waywardness, habitual bad temper, and confirmed indisposition to labor, should lead the physician to the conclusion that the hypochondriacal complaints presented to him by the patient are simply a manifestation of that protean disease hysteria.

It is to be remembered that the presence of hysteria in an individual does not mean that actual disease in some organ may not be present. In fact nothing is more clearly demonstrated than the presence of pelvic disease in a large percentage of these cases, though the etiologic relationship existing between the local disease and the constitutional vice is often obscure. In many cases of hysteria, especially those occurring in young people, early diagnosis and proper treatment may entirely avert the actual physical crises which are the characteristic manifestations of the disease. At the same time it should not be forgotten that the same treacherous, unstable, inherited neurotic tendency will remain to vex us through the coming years.

Under the head of melancholic conditions I shall include, for present convenience, two widely differing phases of mental aberration. The disease properly called melancholia according to the most recent nomenclature is an involution psychosis, while the same term is often applied to a condition of mental gloom and depression occurring as an episode or constituting the entire attack in manic-depressive insanity. The patients of either form of disease sometimes consult their family physician to ascertain the reason of the profound gloom which oppresses them. However, almost invariably they have no insight into their disease. When they have arrived, therefore, at that stage when they begin to imagine diseased bodily conditions to account for their fears and depression, then they are apt to consult their physician about these imaginary ailments. The characteristic fancies, the unfounded gloom, the diminished consciousness and indifference to their environment, the exaggerated introspection, will enable one to distinguish their condition from that of neurasthenia or hysteria, even in the absence of illusions, hallucinations, or delusions. The diagnosis of melancholia in its incipient stage is probably the most dreaded conclusion which can be imparted by the physician to the friends or relatives of the patient. Possibly when the diagnosis is made no clearly defined delusions or marked intellectual errors may be detected. The proper diagnosis here is, however, peculiarly useful. The possibility of suicide should be brought to the attention of relatives, and measures taken by them accordingly. If the financial circumstances of the patient are sufficiently good to give him intelligent care both day and night, treatment under proper arrangements may be given amid the home surroundings, otherwise early committment to a hospital devoted to the treatment of mental diseases is certainly advisable.

I shall not, of course, take up your time by presenting any abstract of the text-books on the subject of differential diagnosis. No short-cut in the way of pathognomonic symptoms or delicate chemical tests has been devised to precisely determine which of these conditions we may have before us in the early stage of an obscure case. I have simply desired to call your attention to the great importance, to these patients and those dependent upon them, of your finding out just what it is that ails them.

In conclusion, I wish to make a few suggestions gathered from practical experience. In the case of a woman, the possibility of pelvic disease and malpositions of the uterus and its appendages producing symptoms simulating severe neurasthenia, and the relief of these pathological conditions by appropriate treatment bringing about permanent disappearance of the neurasthenic symptoms, should not be overlooked. I have already alluded to the desirability of proper treatment in similar conditions of the pelvic organs associated with hysterical conditions. In melancholia, as well as in the two last named diseases, it remains true that whatever treatment or regimen tends to bring about and establish a better physical condition will be a most powerful aid in antagonizing neurotic tendencies.

One word as to eye-strain. This condition can be determined by simple tests and with inexpensive apparatus. It has apparently been the cause of many cases simulating extreme nervous prostration. In many such cases the correction of the error by proper glasses, and the establishment of better habits of using the eye, have produced results apparently marvelous.

Neurasthenic and hysterical patients contribute greatly to the exchequer and often to the fame of quacks, and it would be of great advantage to the profession could it spare enough time for the proper investigation, comparison, diagnosis, encouragement and instruction of such cases. Many of them might thereby be prevented from making devious journeyings in pursuit of health—with the usual result of falling among thieves and the disastrous consequences ensuing. The treatment of these cases takes a long time, is subject to many apparent failures and is devoid of the brilliancy which is so attractive in many departments of medicine, but much good may be accomplished by it and better things are continually to be looked forward to in the future.

SOME OBSERVATIONS ON PARETICS ADMITTED TO THE SOUTH DAKOTA HOSPITAL FOR THE INSANE DURING THE PAST THIRTEEN YEARS*

By L. C. Mead, M. D.

Superintendent of the South Dakota Hospital for the Insane

YANKTON, S. D.

If there be any catastrophy that can come to human life that is preeminently more terrible than all others it is paresis. On the first moment of its known existence can be pronounced the death sentence, which is more inevitable than any ever pronounced by judge or jury. Death has already begun its devastating work, and each day adds to his trophies, not the man, but a small part of the man. Watching his victim day by day the observer sees some fragment of being, mental or moral, disappear. Whether rapid or slow the process is sure and inexorable, and fate nowhere shows her fixedness of purpose more clearly.

So insiduous is the onset of paresis that it is doubtful if anyone ever observes and correctly interprets its real initial symptoms. To-day inhibition is slightly lessened, but the slightly exaggerated reflex is not noticed. Tomorrow muscular fiber is touched, but the myosis, if observed, finds no correct interpreter. The next day the moral obliquity is noticed, and will be attributed to innate meanness, and the first failure of memory to normal mental abstraction. By and by the condition is recognized, and its progress watched. The physical deterioration that has begun is not stayed till the wreck of the physical man is absolute. The trophic changes may cause the bones to crack, and the joints to fall asunder almost of their own weight. Long before death the victim is a mere breathing existence. Hand in hand with this goes the mental and moral deterioration until nothing in an animal's life is so degraded. When the grim reaper death finally appears on the scene, there is nothing left to harvest but the last breath.

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*Read before the Aberdeen District Medical Society, Aberdeen, S. D., Sept. 15. 1903.

Who are the victims of paresis? Mostly men,—men of all social and intellectual positions. But, certainly, paresis shows a preference for men of intellectual vigor and attainments. Indeed, it is not at all improbable to my mind that the disease has its origin as much in excessive intellectual activity as in any other one factor. Excesses of all kinds are contributory etiological factors; but that they are the only factors, my experience flatly contradicts. I remember years ago reading an article written for popular reading in one of the monthly magazines, the North American Review, by no less a distinguished alienist than the late Dr. Godding. In it he stated in effect that those whose lives had been free from excesses could rest absolutely serene in their feeling of security against the invasion of this malady, but my own slight experience leads me to the opinion that we cannot lay this flattering unction to our souls.

Let me give you a definition of this terrible disease by a recent author. I give it because it is good and not subject to the criticism of some of the descriptions which I will point out.

Definition.—General paresis is a subacute, or chronic, degenerative disease of the brain, often extending to the spinal cord and the large nerve-trunks. It is marked chiefly by progressive enfeeblement of the mind, and concomitant paresis of the entire body. Mentally, there is moral and intellectual perversion, with an abnormal sense of well-being, or actual delusions of exaltation, followed by slow dementia, to which is generally superadded insanity of the maniacal, melancholic, or confusional type; physically, there is gradual development of tremor, pupillary changes, loss of co-ordinating power, especially of speech and gait, trophic complications, occasional epileptiform or apoplectiform seizures, and finally paresis.

When asked by the president of the Aberdeen District Medical Association to write a paper for this meeting, I thought that the manifestations of paresis as observed at the South Dakota Hospital for the Insane had been somewhat different from the manifestations of this disease as usually described by writers on this subject. Thinking that a delineation of these differences would be interesting to you, I confidently announced my subject, but upon reviewing the very literature that I expected would prove this divergence, I found little to justify such a notion. I had observed nothing but what everyone had noted, and, mine the shame, much that I had not noted has been described by them.

No two clinical delineations impress you alike, and all are probably faulty; indeed, it seems to me that all or most that I have read are faulty in one common particular, which one fault I will endeavor to point out, and illustrate by a few leaves from my own experience.

I think that the student of psychiatry reading exclusively on the subject of paresis, without opportunity for personal observation of concrete instances, would expect, as a result of his reading, to find the unsystematized delusion of grandeur just as certainly as he would expect cough in pneumonia or elevated temperature in typhoid. We are told that these symptoms are very constant, but not absolutely essential. We may have pneumonia without cough and typhoid with a subnormal temperature, but these exceptions to the general rule are so unfrequent that it has never been my experience to have seen them. Reading the literature of paresis I think that the student would conclude that equally frequent is the unsystematized delusion. As a justification, therefore, for adhering to the subject of my paper as announced, I will relate my own experiences to the contrary.

When I first went to Yankton, in 1800, as an assistant physician to the South Dakota Hospital for the Insane, I found two patients that deeply interested me. As an excuse for not comprehending them let me describe my training. In my younger days I was a student at the University of Wisconsin. That institution, as you know, occupies a commanding position on the banks of a beautiful lake, Mendota. Directly across this lake, in plain view is the State Asylum for the Insane. I had frequently rowed across this lake, been shown through the wards of the asylum, and on one occasion had been introduced to the first assistant physician, Dr. Clark Gapin, and, last but not least, I had met the dignified and scholarly superintendent on the highway. He was being driven to town. I was walking out. True, I had subsequently studied medicine, graduated, and practiced the art; but if during that time the subject of mental alienation had been approached, it had been done in a way that did not impress me. The instances above related might therefore be regarded as my preparation.

But to return to my patients. One of them was a man nigh unto death. He had been, I was told, an expert bookkeeper; now he was utterly helpless. He could not walk, not only for lack of muscular strength, but for want of power to properly co-ordinate his muscular movements. He could not express an idea for the same reason,—lack of mental strength and muscular co-ordination. Constantly at his bedside was his faithful wife, and anything more than an occasional kindly inquiry from a tyro like me seemed out of place. His mind may have been filled with delusions, but if so they were unexpressed. What impressed me was the mental degradation, the complete extinction of mental life, exhibited by the man. He died a few days, or weeks, later, and that which had caused me to marvel became a memory.

At the same time there was in the same ward another patient with whom I was wont to linger. He had a peculiarly inexpressive face, his gait was slightly shambling, and his speech was likewise shambling. The peculiarity that constantly attracted me was the way the immediate past had dropped from his life. He lived in the immediate present and the remote past. It was utterly useless to talk to him about what had happened a year ago, a month ago, a week ago, a day ago, an hour ago, yes, even a minute past. Such a complete loss of memory for recent events I have never seen before nor since. He never knew me; he never knew his attendant; he never knew where he had slept the night before or where he had dined; the toilet-room had always to be pointed out to him. With an ever-ready Irish wit he would evade your questions about recent events, but the remote past was I think normally clear to him. He never knew where he was, but he knew he lived in Aurora county, had just come from there in fact, knew that he was born in Monmouth county, N. J., and would talk with you reasonably well about either of these places. He was classified in the asylum records as an epileptic, and epilepsy was given as the cause of his mental trouble. No one at the hospital ever saw him in an epileptic convulsion, but he had during the last days of his life the frequent apoplectoid seizures incident to his malady. He was still living, though bedridden and abjectly demented, in 1899, when I went away on my somewhat prolonged and involuntary vacation. But this man never had an insane delusion that I could discover, for, be it remembered, my life was then one continued search for insane delusions. Before his death this man became as utterly helpless and as profoundly demented as did the one formerly described. His days were unusually long, for from the date of his admission till the date of his death was 11 years, 5 months and 9 days.

It was not until the following spring, April, 1891, that I saw another similar case. At that time V. D——, a resident of the Black Hills, was admitted to the hospital. He was a man of exceptional refinement, of good family, well educated, and with bright prospects. While yet young he left the home of his parents, in New Jersey, and went to the Black Hills. There he engaged in mining, was successful, but became involved in litigation, married a prostitute, and probably ran a somewhat insane career for some time before his fatuity was recognized. At the hospital mental symptoms were indeed not lacking; progressive mental and physical enfeeblements, apoplectoid seizures, and the most abject dementia preceded the final closing scene, which was deferred but little more than a year. But of the graphically described delusions of grandeur, there was not a trace.

A little later, July 15th, of the same year, one of our own profession, Dr. J. C. M——, had the misfortune to be brought to us. His friends had thought it necessary to fool him in order to get him to come to the hospital, so they told him that he was wanted for a consultation in the case of a patient whom he had himself examined for commitment less than a year before. He came willingly, took his place in the wards without question or comment, and never asked for the patient whom he had been told he was coming to see, apparently having forgotten the mission upon which he started out. Referring to the report of the examination upon which he was committed here, I find that in answer to the question, "When were the first symptoms manifested and in what?" The reply is, "Two months ago; speech hesitating." To the question, "On what subject and in what way is the derangement now manifested? State fully." The answer is, "Violent temper, incoherent conversation, low mutterings, talking to himself, biting, grating of the teeth more noticeable." It appears, therefore, that the insane delusion had not been a conspicuous symptom in his case before his admission, for in answer to this inquiry, the examining physician invariably points out the insane delusion, if such exists to his knowledge. True, this man had some expensive ideas; he was well equipped professionally; and he brought with him a very fine surgical outfit. Indeed, at the time I thought it the best outfit that I had seen in the possession of any physician in the state. I learned afterwards, however, that it was a bequest of a deceased uncle who had been a very eminent surgeon in Cincinnati. The doctor was also a lover of horses, and was the owner of two or three good travelers. Under these circumstances the idea entertained by him that he had the best surgical outfit and the fastest horses in the county could hardly be regarded as an unsystematized delusion of grandeur. Both were too near the fact to be thus considered. He passed almost a wholly uneventful life at Yankton. The mental enfeeblement progressed regularly, and the physical deterioration accompanied it, hand in hand. He became profoundly demented, and died two years after admission. It is interesting to note that according to the report of the examining physician his symptoms had begun but two months before his admission. A careful examination of the papers upon which paretics have been committed to Yankton, shows that the first symptoms have usually been observed a very short time before the patient's admission. To this we will revert later on.

Now, I have purposely described at some length the four cases that came under my observation the first year of my asylum experiences, and here I wish to make a confession. I had a vague idea of the diagnosis in these cases, but it was vague and uncertain. When I began my career at the State Hospital for the Insane I found in the library some valuable works on mental diseases that I eagerly read. First was Cloustin, then Spitzka. These authors I read again and again with much profit. Each of them possessed rare descriptive powers, and their clinical delineations formed pictures from which it would seem that anyone ought to be able to recognize the original, but to the paretics had been ascribed the unsystematized delusions of grandeur of such extraordinary character as to obscure pretty nearly all of the other symptoms. True, both authors called attention to the fact that the delusions of the paretic may be depressing instead of expansive, and, indeed, that no delusions whatever may exist. But the statement of such a fact in a single paragraph is wholly obscure behind the pages and pages given to descriptions which occur in most paretics. In one year I had had four cases. These four, excepting the first, I had studied with great care. I lived with them the remainder of their days, and none of them ever expressed an insane delusion in my presence, nor was I able to learn that they expressed such delusions to their companions or attendants. Gentlemen here present who were brought up in large eastern institutions under expert instruction will have little sympathy with my incompetency, but as an apology I wish to again call your attention to the training I had had for this highly specialized work. I regret that I had been led to believe that there are other physicians, and some of them in asylums for the insane, whose training has been almost as good as mine.

The years that followed can be passed over with a few statements. The number of paretics admitted to the hospital at Yankton gradually increased. Some of them did and some of them did not exhibit the unsystematized delusions of grandeur to comply with the graphic description of most writers, but all exhibited the progressive mental and physical deterioration described by me as having been observed in my first cases. I had not been able to recognize the first cases for the lack of one symptom, but later this defect had been overcome, and paresis was recognized by us, as it is recognized by others elsewhere, that our paretics were in the main like paretics found in other institutions.

I wish, now, to call your attention to another view of paretics upon which I think sufficient emphasis has not been placed. To do so permit me to give a history of two patients under my observation during the past two years. I had been but a few days in my old position when my attention was called by the first assistant physician to one of the inmates in one of the wards under his care as a person whose mental condition might probably justify his discharge. At my convenience I visited the patient, A. B——, in his ward. I found him a quite well-behaved mild-mannered man, who appealed to me in a proper way for his discharge. He said that he had already been in the hospital more than a year, and that he was, he thought, quite well. At least no one had pointed out to him the peculiarities that could be regarded as abnormal. He was, he said, of course, more or less a loser financially by being detained. He reckoned his losses very closely on account of the fact that he was engaged in putting up hay at the time that he was adjudged insane, and that in doing this he was able to earn about $5 per day, net. This, together with the loss of his team and haying utensils, constituted what to him was quite a serious loss. On inquiry as to what reason he could assign for his being brought to Yankton, he assured me that he knew of none except that shortly before he had had a somewhat miraculous conversion. This I found was described in the papers accompanying him at the time of his admission. It appears that in a period of revival or excitement he had been converted. On that night the miracle of Joshua had been reversed. Instead of the sun standing still, it had instantly passed from west to east, and the night was not. Several hours of time had evidently been lost to this patient. This had been symbolical to him of divine approval. There was nothing in it particularly worse or more irrational than I have frequently heard at so-called revival meetings. There was nothing in his estimate of his losses that was particularly unreasonable, except that he exhibited his faulty judgment in assuming that the haying season would last the entire time of his confinement at Yankton, and that his losses should be properly reckoned upon that basis. A physical examination, however, revealed a beautiful Argyll-Robertson pupil, and some fine tremors of the mouth and fingers. He fell down quite badly when asked to repeat some of the test sentences, such as "Round the rough and rugged rock the ragged ruffian ran," etc. But altogether he was a very pleasant patient, and one whose condition his lay attendant failed to appreciate.

I had him brought to the office for clinical use at subsequent staff meetings for the purpose of pointing out to my assistants the little things that should be observed by them, and their deep significance. For months I felt confident that his attendant really believed that there was no justification for his detention. One day, while passing through his ward, I asked the attendant if he had ever noticed anything particularly wrong with Mr. B——. "Never a thing, Doctor," was his prompt and emphatic reply. I left him with the admonition to watch Mr. B—— closely for a time. It was not necessary to watch long. One morning after getting up he announced to his astonished attendant that he had had some very good luck the preceding night. Upon being asked what it was, he told his attendant that he had received a check from Germany for some $3,000,000. He was not a very rich man, and he was going back to his old town and establish himself in the confectionery business. By way of advertisement he was going to supply every man, woman and child in the surrounding counties with large quantities of confection. Later in the day when I visited the ward his wealth had grown very much. He offered me more than that as a salary if I would perform some trivial service for him. His confectionery business had become small. He was going to establish manufacturers of all sorts in his home, and millions upon millions were to be invested in them. In fact he had started out to be a veritable Napoleon of finance. To be sure he said he had enough, but he added, with a smile, nobody was so rich but what he wanted more. His wealth continued to grow. In two or three days the Arabic numerals failed to express it, and he had to invent new terms by which to describe it. He had ten hundred, thousand million, billion pillions, yes, "pavillion" of dollars. He failed rapidly, and I thought was speedily nearing the end when one day, after a somewhat prolonged silence, in regard to his wealth, he told his attendant that he felt very much ashamed of himself.

Upon being asked why, he said that he had a dream the other night in which he thought that he had grown enormously rich, and that the dream was so real that it seemed to him that it was true, and he had told me about it and he knew now that it was nothing but a dream. He added that he supposed the doctor would keep him a long time now on that account. Then followed months in which there were apparently no delusions. They finally recurred again; physical deterioration was rapid; the mental decay complete; and death followed in the usual way. It was the last view of this case that makes it interesting, that is, the perfect recognition that his delusion was a false idea. This patient appreciated that fact as well as anyone could, and for months seemed to be heartily ashamed of having related to us what he had supposed had come to him; and for several months after the extraordinary delusions of grandeur had been exhibited, which I have tried to relate, this patient would have passed among the laity as a perfectly normal man.

One more exceedingly interesting and instructive case, and I have done. A few months before returning to Yankton and while practicing medicine in Sioux Falls one of the physicians of the city brought a patient to me whom he suspected was not quite right. The patient, H. W——, was a member of a fraternal order with which both of us were affiliated. He had been the victim of various misfortunes during the preceding six months. He was a conductor on a freight train on one of the railroads running into the city. He lost his job about six months before on account of his forgetfulness of some small but very important details to which a conductor should attend. His family consisted of a wife and four children, the oldest about 8 years and the youngest a baby in arms. He had sought employment in other occupations, but had always failed to give satisfactory service, and would hold a job only for a few days. His wife accompanied him to my office, and she did not appear to be suspicious of any serious mental defect, although she said that his memory seemed to have been very bad of late and that he had on two or three occasions got lost in the city where she thought he ought to have been perfectly familiar with the surroundings. I found a very well-marked Argyll-Robertson pupil, considerable muscular tremor, anesthesia of the fauces, inability to repeat test sentences, and quite an appreciable paretic speech. Upon the strength of these physical symptoms I made the diagnosis of paresis. He was kept at home for several months, but shortly after my return to Yankton he was adjudged insane by the commissioners of insanity in his county, and committed to our care. Here he has been a model patient, and is still living. His speech has become so exceedingly paretic that it is very difficult to understand him. His gait is so unsteady that he can scarcely walk, and the evidences of the progress of his malady are painfully apparent to all. A few months after he had come under our care at Yankton I received a letter from a gentleman in the interior of Iowa asking if we had a patient at the hospital by the name of T. H—— or H. W——. In explanation he said that ten or twelve years ago his brother had disappeared suddenly and mysteriously. All search for him had been futile, and the family had at last given him up as dead. A short time before some old acquaintance of the family had told him that his brother had been living in South Dakota, and that he was now in the insane asylum at Yankton under the name of H. W——. He wrote me for a verification of this information although in it he had little faith. He described our H. W—— accurately, and left no doubt in my mind that he was the lost brother referred to. I replied to his letter of inquiry advising him of my opinion that his brother was an inmate of the hospital, and he promptly made the trip to Yankton to see him. Upon being taken to the ward, the brothers recognized each other at once. They had a long and pleasant visit together. After they had been together a short time the brother from Iowa asked, "Why, Ted, why did you change your name to H. W——?" The patient proceeded to explain the reason for his change of name as follows: "Before I left C. (being a town in which they formerly lived) I had some trouble with a fellow down there. He pitched onto me and I killed him—shot him dead. In order to get away I made up my mind that the only thing to do was to change my name, so I adopted the name of H. W——, and went out to Montana. After being there two or three years I came back to South Dakota, always under the name of H. W——, for I didn't think it was safe to take my old name." In South Dakota he got married, and, as before stated, reared a large and apparently healthy family of children. The patient entered into the most minute description of his trouble with the man whom he asserted he had killed. That story he told his brother then, has told it to other members of the family since, and would tell it to me now without material change were I to ask him. It is clearly an insane delusion, for he never had any trouble in C. that was at all serious so far as can be ascertained. No murder was committed at or about that time in C. No one was in search of him, except his own family and friends sometime later when they were apprehensive on account of his long-continued silence, but he evidently changed his name about that time, when he disappeared from their view completely. He has been known ever since by his changed name, which is the one sole and only insane delusion that we have been able to discover. The query naturally arises, What was this man's mental condition at the time he changed his name? He is a paretic now; was he a paretic then? The conclusion that he was seems almost certain, and yet for years his conduct and conversation were rational. He married and reared a family, probably all the time believing himself to be a murderer. So rational indeed was his conversation and conduct that he worked himself into a responsible and lucrative position with the railroad company. If he was laboring under insane delusions ten or twelve years ago which caused him to change his name, why might he not as well have labored under insane delusions that would have caused him to commit a crime? I am very sure that at the time I first saw him had he previously committed the crime it would have taken a man of considerable moral courage to have testified to his insanity and moral irresponsibility.

Of what practical use is all this to the general practitioner? Not very much, to be sure, for paresis is, fortunately, a rare disease. During the thirteen years of my hospital life there have been at the state hospital scarcely sixty cases. Some others in the state have, to my knowledge, been cared for at home, but it is safe to say that during all that time in this whole state the total number of cases would not reach one hundred. The calculation of the chances of the average practitioner for observing a case can easily be made. It will undoubtedly fall to your lot to be called upon to diagnose this condition, and my hope is that you will not be baffled in your efforts by your failure to discover the one startling symptom which is so fully described and upon which so much stress is laid by most writers. Possibly there may have been, formerly, reason for their insistance upon this symptom, for I have heard no less eminent a clinician than Saxe state that certainly the type of paresis has greatly changed during the past twenty years; that whereas twenty or twenty-five years ago his paretics always wrote their checks for millions and were the most powerful of earth, now more frequently they suffer from depressing delusions or perhaps exhibit no delusions at all. Infrequent as are your opportunities for observing this disease, it is certain that here in South Dakota the cases are increasing. The disease should be recognized early, for in no other form of mental alienation is the moral responsibility of the patient so utterly destroyed, and in fully one-half of the medicolegal cases in which I have taken part as a witness it has been in defense of paretic cases.

Mr. President and gentlemen, for your kind invitation and respectful attention, please accept my thanks.

WHAT IS NECESSARY TO THE EARLY TREATMENT OF INSANITY?*

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The greatest difficulty in the way of progress in the medical treatment of the insane, is that we are prone to think of the future in terms of the present. When we consider the doing of an act in the future, we always have a picture of the present in our minds. Therefore, when we try to consider insanity as a manifestation of disease, just as we would scarlet fever or pneumonia, there comes up in our minds the picture of the wild eyed individual, with matted hair and torn garments, whose presence fills us with superstitious fear; and we instinctively think of him as the victim of demoniac possession: forgetting, that, like the scarred victim of smallpox, or the loathsome subject of tertiary syphilis, as we used to see him, he is simply the result of the conditions our ignorance and superstition have placed him in. Unfortunately, too, we are further hampered by the fact that present conditions are in a great measure beyond our control, because they have been molded into public opinion and fixed by statute. Public opinion does not seem able to realize that if we treated the insane man as we do any other sick man, he would cease to exist as we now imagine him, an unsocial being. It is true that there will always be a class of individuals who are essentially insane from the time of their birth, and who, as they grow older, become unsocial beings like Guiteau and Prendergast. But such people are the exceptions, and they ought not to be the basis for the consideration of what should be the proper treatment of the acutely insane; any more than should the chronic quiet and well behaved dement, who is, at present, the main object of sentimental and philanthropic regard. My experience has taught me that while theoretically and sentimentally the insane are regarded as sick people, practically they are not, as is shown by the persistence in most states of laws which give the insane a quasi criminal status. Besides, insanity is not known to the public except in its most extreme manifestations, and the patient is not placed under treatment because he is insane, but because his conduct has made him dangerous to the community. Consequently these unfortunate people have been looked upon by the world very much as was the leper by the Jew. They have been thought of as beyond the pale of human sympathy and interest, as objects of horror and dread; to be pitied in an indefinite sort of way, but always at a distance. We have constantly to struggle against the inertia of custom and the influence of tradition and superstition in keeping alive medieval ideas concerning what is constituted in insanity. These difficulties are well illustrated in the attitude of the public mind, as well as that of physicians who have not become familiar with the insane by association. The fact of insanity is admitted without appreciation of the significance of the mental perversion, or any realization that the relation of the insane man to his fellows is changed by his condition; therefore those by whom he is surrounded are disposed to accept his statement of his relations, and to be influenced by what he says. Again, in considering the necessities for his care and treatment, nothing is appreciated but his clothing, housing and feeding. The acutely insane man is thought of as a sort of wild animal to be kept out of sight; while the chronic, quiet and well behaved patient, for whom nothing need or can be done, receives the sympathy and interest of the sentimental and philanthropic, because there is nothing shocking to the sensibilities in his behavior, or offensive in his appearance; besides, all of his needs are supposedly familiar to the general public.

In order to understand the weight of these influences, as they interfere with progress, it will be necessary to review briefly the history of insanity and the care of the insane, as it developed in this country out of the traditions brought from the old world. Until within a comparatively recent period the mind was conceived of as an entity, independent of the body and its functions. Therefore, the condition insanity was irremediable, without hope for improvement, except through the intervention of divine providence. It is true also, that this belief was fostered and kept alive by religious belief and the teachings of metaphysics. Among savages, the insane man was either looked upon with reverence as under the special protection of deity; or, if disturbed and violent, as possessed of an evil spirit, and disposed of accordingly. His treatment among civilized people did not differ much in kind, until, in the middle ages, he was turned over to the care of the church; which taught that his mental disturbance was the result of demoniac possession, and he was treated in accordance with this belief: using special rites of exorcism directed to the spirit, supplemented by corporal chastisement and mortification of the flesh by isolation and fasting. With the disappearance of the monasteries the insane began to accumulate in the towns and villages, and thus came within the cognizance of the law; which at first concerned itself only with the poor, because the well-to-do took care of their own unfortunates. This undertaking resulted in a very direct simple classification and disposition of the insane. Those who were demented and harmless were looked upon as paupers and sent to the almshouse; while the aggressive and violent ones were regarded as criminals and were sent to the gaol. The indifference of the insane to their personal welfare brought about another kind of a classification, which resulted, among the almshouse population, in the separation of the cleanly from the filthy. The latter being like cattle dependent upon others for their personal care, were herded in sheds and littered with straw. In the gaol the classification followed the same simple lines. The quiet ones were treated as ordinary criminals, and those who were more or less continually disturbed were manacled, or chained to the wall or floor.

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These, with slight variations, remained the means and method for the care of the insane until the period of the French Revolution. It is true, that, from time to time, efforts were made by individuals toward the amelioration of the condition of the insane, and a clearer and more rational conception of what was constituted insanity, but without avail; for tradition and custom are stubborn things, and public enlightenment is not accomplished by revolution. However, as a result of the general upheaval and overturning which followed the revolution in France, an opportunity came for a demonstration that the insane were human and amenable to the same influences that affected the conduct of the sane. Almost simultaneously, in England, an effort was made by a member of a certain religious body to carry out in the care of the insane the tenets of his religious belief, and follow the precedent laid down in the new testament, substituting quiet, cheerful surroundings, and active personal care, for the lash, ducking stool, and chains. The precedent established in England by the founding of York Retreat by the Society of Friends, through William Tuke, led to the establishment of other institutions using similar methods, and the influence of the teachngs of Pinel and Esquirol, as well as the closer personal supervision of the daily life of the insane, which resulted from this change of method, led to the recognition of the fact that the bodily condition of the insane man influenced his mental state; and, consequently, physicians began to be called upon to attend to the bodily ills of the patient. There had been no real change, however, in the conception of what was constituted in insanity, and the body and mind were still considered to be separate entities, possibly co-ordinate in action, but independent. Consequently, while steady progress was made in the amelioration of the conditions surrounding the insane man, and his clothing, housing and feeding were given more intelligent consideration, no effort was made toward the clinical study of the physical conditions present in insanity, nor were those incidentally observed in the study and care of the mental disturbance correllated with the varying manifestations of the insanity, and the degree of their interdependence in any way determined. On account of the former neglect of these unfortunate people, and the terrible nature of their surroundings, public attention and interest were concentrated upon the improvement of their personal care for a long time, and the economic necessities of the public institutions fully occupied the time of the medical men in charge. Besides, the insane were rarely brought to the public hospital until their condition had become chronic, so that there was little to be hoped from medical treatment applied to the restoration of mental capacity; while the establishment of these institutions in the country isolated the medical men in charge, and deprived them of the stimulus which comes from contact of men in the same work with each other. Consequently our public institutions were entirely occupied with the problems of personal care and economic administration, and there was no material advance in the methods of study toward the clinical rather than the custodial aspects of the work. It is true that during this time, as always, certain men tried to break the shackles of tradition and custom, but without avail, for the time was not ripe, and public opinion was not enlightened to the point of appreciation of insanity as a manifestation of disease. Singularly enough, the next great advance in the study of insanity came after the civil war in this country, and was a result of the stimulus of that great upheaval toward active effort in every direction. Besides, improved means of investigation had brought about a revolution in our methods of study of the nervous system; and its relation to the rest of the organism was beginning to be better understood. Through the efforts of men who made the study of nervous disease a specialty, both in this country and abroad, and as the result of their criticism, a more careful investigation of the pathology of insanity was begun. Then, too, the general medical profession began to take a more active interest in the study of insanity, its probable causes, pathology and treatment. Men doing special work saw in mental disturbance an apparent result or complication of disease conditions which came under their care, and with which they were familiar, and each has tried to explain the manifestations of insanity from the standpoint of his special field. Among neurologists the effort is being made to explain the perversion of mental activity in terms of disease of the sensory and motor parts of the nervous system; while the medical men in the hospitals for the insane are still hampered by the inertia of custom and tradition, and the persistence of the metaphysical conception of what is constituted in insanity. These apparently indefinite methods of study have so far been barren of practical results. They are, however, tentative efforts in the right direction, because, in them all, there is the tacit recognition of the fact that the mind, so-called, is not an entity, and that its activity must necessarily be correllated with all of the organic processes. Reference to text books on the subject of insanity will show that very little if any attention is given to the physical condition of the patient with relation to his insanity.

A great deal of space is given to the elaborate discussion of the manifestations of aberration; and the degree and form of insanity is the basis for its classification: while in the study of its pathology attention is given almost entirely to the morphology of the structure of the cortex. Again, the various manifestations of insanity are described as the specific result of some bodily disease or condition; such as fever, septicemia, traumatism, or the puerperal state; and even as the result of surgical procedure: entirely ignoring the fact that while all of these conditions affect the many, only the relatively few become insane; and that there is no correllation between the kind and extent of the physical disturbance, and the form and persistence of the insanity. Indeed, when insanity accompanies or follows physical disease or traumatism, it is much more likely to result where these conditions are mild or slight.

The confusion resulting from the divergent methods followed in the study of insanity, and the varying conceptions of what is constituted in its manifestations, cannot help but obscure the subject and make it difficult for the general practitioner of medicine to understand what he is dealing with, to recognize the early manifestations of insanity, and to carry out a method of treatment which will be rational and successful. The first step in the clearing up of this confusion is the recognition of the fact that probably no one ever becomes insane who is not primarily unstable or defective mentally! This instability or defect may be the result of hereditary conditions, or follow some cause of arrest in development, operating during the first seven years of life, during the period of rapid growth of the brain. Besides, it is not only the children of the insane who become insane, but, to quote the writer: "The recognition of hereditary influence has therefore to take into consideration the transmutation of form in the transmission from one generation to the other of constitutional or diathetic conditions affecting the parents, and even the effect of temporary causes affecting the vitality of the parents at the time of conception. That is, any condition which produces somatic degenerative change in the organism of the parents may be manifested by brain degeneration and mental aberration in the offspring. Thus the children of the syphilitic, tuberculous, or gouty, may be, and commonly are, the victims of degenerative disease of the nervous system and insanity. So that, while as generally understood the children of the victims of these diathetic conditions, who become insane, do not directly inherit the tendency, practically they do by the transmutation ot the diathetic conditions between parent and child." We have to consider then in any given case of insanity, first, the personal history of the patient, for the indications of instability or defect in the nervous system, and its degree. Next, the family history; seeking for evidence of constitutional conditions which will indicate the cause of the limited cerebral potentiality in the patient, and enable us to determine its degree. Finally, we must study the actual physical condition of the patient, to determine the presence of disease or degeneration in the vegetative organs, which may account for the impaired vitality which has preceded or accompanied the outbreak or development of mental disturbance. It has been customary to consider that the excitement or depression manifested by an insane person was entirely independent of his bodily condition, and his activity and apparent indifference to physical discomfort have been considered as signs of good health. A few medical officers of hospitals for the insane used to go so far as to assert that the insane did not need any medical treatment. It is needless to say that such statements or practices were based on a priori reasoning, for a very little investigation will show that while the mental aberration is a manifestation of perversion in the functional activity of the brain, it is necessarily preceded and accompanied by some kind of physical disturbance, and in a great many cases has for its antecedent or concomitant grave organic disease of the body. At any rate, we have no right to say that a patient is free from disease until by careful examination, with the aid furnished by the laboratory, we have determined the facts. The mind not being an entity can not be treated directly. Also, as the nervous system supplies nothing toward its own nutrition, and is not concerned in the elimination of the waste materials of its own functional activity, but is, on the contrary, entirely dependent upon the vegetative organs for maintenance, it may be assumed, in consonance with current hypotheses concerning the role of auto-intoxication in the production of disease in the nervous system, that failure in the functional activity of those organs engaged in the reduction and elimination of waste material from the organism would have a more important bearing upon the development and persistence of perversion of functional activity in the general nervous system, as manifested by mental aberration, than would a similar failure in the function of those organs having to do with the preparation of food material for assimilation. In this connection, it must also be recognized, that, as it is the principal function of the general nervous system to direct the activities of the rest of the organism, a failure in this dirigent function, would, of necessity, interfere with the normal activity of the vegetative organs, thus lowering the vitality of the whole organism, and further reducing its capacity for adaptation to external relations; by involving the retention, not only of the waste materials of its own activity, but also of such toxic substances as might result from the imperfect or incomplete conversion of the food materials taken into the digestive tract. It follows then, that in the treatment of insanity we are not directly interested in the mental condition of the patient. In my own experience I have never been able to see why an insane man should be treated differently from a sane man, who was ill and whose conduct made it necessary to substitute for his own will some form of external control. We recognize in physical illness and injury something that is tangible, that we can in a great measure understand and appreciate. Besides, unless delirium is present, neither of them interferes with our relations with the person who is ill or injured; whereas insanity first manifests itself by interfering with the relation of the patient to his surroundings; consequently we are alarmed, and feel helpless, because there is nothing apparent to account for the difference in character and conduct, which slowly or suddenly makes its appearance and changes the individual into an unsocial being, whose behavior is mortifying or alarming, and who must, in some way, be restrained: while he, in his turn, on account of the confusion and self consciousness which characterize the beginning of the loss of mental capacity, sees in the manner and conduct of his relatives, and the consternation of his friends, full confirmation of the vague suspicion and unrest which have come to fill him with alarm; and in every word and action of theirs he sees something inimical to his welfare, while all that happens about him is distorted into suggestion of the disagreeable and untoward. For a long time he may be able to control himself, but, sooner or later, under the influence of fatigue, worry, or illness, the confusion will increase, and there will be a sudden outbreak of excitement or even violence. Instead, the picture may be reversed, and he will see all of the evil in himself instead of in his surroundings; become depressed, seeing nothing in the future but humiliation and defeat for himself, danger or disaster to his family. These are the people who suddenly commit suicide, or else first homicide and then suicide. These tragedies are of daily occurrence, and yet the relatives and friends of the victims, while they are cognizant of the changes in the character and conduct of the man, never think of attributing them to their real cause; because he converses and answers questions intelligently, and is apparently able to attend to his business: forgetting that in the presence of mental aberration his very intelligence makes him more dangerous to himself and others; because it enables him to guide and control his conduct in accordance with his perverted view of his surroundings. He, however, knows what his condition is, but tries to hide it even from himself, and would deny vehemently that there was anything the matter with him. And yet this is the time when the mental alienation is most amenable to treatment, and the prospect for permanent recovery the best. To the well-to-do, who can supply the necessary conditions, the care of such a patient is not a problem; but to the ordinary family, especially when the individual affected is the bread winner, the matter is very serious; and that is why, now that we know the importance and value of early treatment, that everything should be done, that can be, to educate public opinion to the appreciation of what is involved in insanity; so that means may be provided for its proper treatment, and the people educated to look upon insanity from the standpoint from which any other disease would be considered. But even the well-to-do are apt to lose sight of the most important element in the proper treatment of this stage of mental disturbance. That is, the substitution of some form of external control for the self control that has been lost. This can never be successfully done by the members of the family of the patient. Their interest is stronger than their judgment, and their fear overcomes their own self control; so that there results the spectacle of the will of the patient dominating the will of the care-takers, and the patient who cannot control himself is allowed, and even encouraged, to do things which his relatives would not tolerate if he was well. In other words, the care-takers follow the lines of least resistance, and thus exaggerate the very conditions they are trying to remedy. It is only necessary to take into consideration the facts in the natural history of insanity, which explain the mental condition of the patient, in order to appreciate what is necessary to his proper treatment. But we must first disabuse ourselves of the conception which has resulted from the persistence of the picture of what insanity is after the development of mental reduction and complete loss of self control. If we will remember that insanity, like every other disease condition has a beginning; that it has to do with that part of the organism which exercises control over all of the vital processes and forms of activity; that the first manifestation of this impairment is confusion and loss of control, especially of those activities which are manifested in conduct, we shall appreciate what it is we have to deal with in its early treatment. However, we constantly see about us the mental conditions which are present in insanity. They are manifested as the result of acute alcoholism, of fear, anger, or mental overstrain, and they are frequently present as concomitants of disease, such as typhoid fever, septicemia, and meningitis. Therefore, they do not differ in kind from the ordinary manifestations of impaired vitality or toxemia, which result from general disease conditions. Consequently, we have to look elsewhere for the cause of their persistence after the subsidence of the acute disease process, and of their development without apparent physical cause. When we find some part of the organism easily affected by disease, or unable to bear its share of the organic division of labor, there is the natural presumption that it is incompetent from some cause: and if there is no history of previous disease, we are justified in the conclusion that the organ or part is congenitally unfit. No one questions this conclusion as applied to the vegetative organs, and yet they never think of applying it to the general nervous system, except in the presence of gross manifestations of defect. As the result of this method of study, insanity is attributed to disease, traumatism, overwork, etc., as if they directly produced the mental abberation, ignoring the fact that all of these conditions are present constantly and affect considerable numbers in the community, but it is only in the occasional case that mental disturbance is associated with them. Besides, there is no definite relation between the degree or nature of the physical disease or traumatism, and the form or character of the mental disturbance. We must, therefore, in the treatment of insanity, first take into consideration the cerebral potentiality of the individual, as shown by his natural capacity for self control and persistent effort; and also consider the evidence furnished by his response to the ordinary conditions in his environment, of instability or defect. That is, is he as competent as those living under the same social and industrial conditions, in his community, to bear the stress and strain of competition, hardship, or failure? If not, it is only necessary that some sufficient strain upon the vitality of the general organism should take place, to cause his mental break down; to set up the disintegrative process that unfits the unstable brain for the performance of its functions, and leads to their aberration. Consequently if we find these conditions present, the first thing to do is to put the brain at rest, as completely as is practicable. This can only be done by controlling the conduct of the patient, and especially by changing the conditions in his environment which have been disastrous to his mental welfare. Then, bearing in mind the action and reaction between the general nervous system and the rest of the organism, we must establish such a regime as will result in the stimulation of elimination and the development of nutrition, to remove all sources of irritation, and restore the vitality of the nervous system. So that, after all, the treatment of insanity is just the same as the treatment of any other disease; excepting that we have superadded the necessity to overcome the loss of self control, as manifested in the bizarre or untoward conduct of the patient. Only superstition and the persistence of medieval ideas as to what is constituted in insanity, make us consider these natural manifestations of impaired vitality in the unstable nervous system to be the real disease; which we try to overcome by physical restraint or the use of drugs. We constantly lose sight of the fact that insanity is not an acute condition; self limited, or to be terminated by surgical procedure; and that in its treatment time is the most important factor. Besides, like other chronic constitutional conditions, the result of defective organization, it is, in the majority of cases, but the expression of a progressive degenerative change. Usually this change has been so gradual as not to have attracted the attention of the family or relatives, until some overt act, widely at variance with the ordinary conduct of the individual, rudely awakens them to the true significance of his condition.

As before stated, it is only the well-to-do who can supply the conditions in their own homes which are necessary to the proper treatment of the insane. The advantage the hospital is supposed to have over the private house is the greater facilities it offers, and the more efficient nursing and care supposed to be given. You do not hestitate to take a person suffering from bodily disease to a general hospital to be treated, and this is being more and more commonly done, because the public has come to know that the systematic care and treatment received in the hospitals, where all of the appliances exist for such purposes, is much better and more apt to be successful than any care that can be given in an ordinary private house. How much more is this true in the care of the insane; where the very nature of the disease makes its manifestations interfere with the relation of the patient with his surroundings; and the changes in his character and conduct are based upon and influenced by beliefs concerning his relatives and friends. Besides, there is no disease condition where the properly trained nurse is so absolutely essential to success in the care and treatment of the patient. The whole art in the personal care of the insane man, is to know how to let him alone; and if his treatment has been begun early enough, and carried out intelligently, he will seldom reach the state where physical restraint would become necessary. The behavior of the insane man is very much what is expected of him, and even after he has, in a great measure lost his self control, his conduct will be the reflex of his surroundings, and the attitude of his care-takers toward him. So that, in the treatment of the mental aberration, more is dependent upon the trained intelligence of the care-takers of the patient, than upon the conventional routine methods used in the treatment of disease. The noise the patient makes, the motions he goes through, or his conversation, have no significance with relation to the necessities of his medical treatment; although they are, in a measure, a guide to the proper supervision of his conduct. The clinical aspect of insanity is presented in the disturbance of the functions of the bodily organs of the patient, as the result of disease or degenerative change, and the conditions resulting, because they interfere with the nutrition of the brain, require active medical treatment. In their study and relief, when practicable, is comprised the medical treatment of insanity.

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THE ABERDEEN DISTRICT MEDICAL SOCIETY.

South Dakota physicians have no fear of rain, mud or darkness, as was recently shown by the zeal of the members of the above society.

This association is composed of physicians from nine counties tributary to Brown county, of which Aberdeen is the county-seat. The membership is about sixty-five, and at the meeting of September 15 forty of the regular members were present. The trains leading into Aberdeen are not arranged for the comfort of medical men, or others, who are willing to attend day sessions, and hence, to secure the largest possible attendance, the society meets in the evening, and if the trains are late in arriving, whether delayed by the service or the elements, the session does not begin until all trains are in. On this particular occasion the last belated train reached the enterprising city of Aberdeen at 9:50 p. m. If it had been 10:50 or 11:50, the receiving committee would have waited with the same Christian-like patience.

Frequent attempts have been made to have meetings in the day time, but the country members declare their preference for a night session, and the attendance justifies the change.

To spend two nights or the entire twenty-four hours for the privilege of meeting together for medical communion for a few hours shows the temper and ambition of South Dakota medical men. No Eastern organization has such enthusiasm, and very few physicians would display their ambition and willingness to travel hours, sit up all night, and travel back home for the pleasure, or profit, of a medical conference. The actual session began at 10:30 p. m., and continued until 1:30 a. m., when the society adjourned for an elaborate banquet, prepared and served in city style, at 2 a. m. at the Ward Hotel. At 4 a. m. the meeting was over, and from 6 to 7 a. m. the members were on their way to their respective depots.

No wonder this society is a success. Interest of this virile sort is what makes medical societies worth attending. If city physicians would follow the example of this vigorous and excellent society of South Dakota, the organization and power of the American Medical Association would expand beyond all hoped-for limits.

We publish in this issue the excellent papers read at the meeting, and we make the suggestion that they be read carefully, as they contain valuable information to the general practitioner.

The paper presented by Dr. Dwight S. Moore on "The Early Symptoms of Neurasthenia, Hysteria, and Melancholia," opens the way for the perusal of the other papers. Dr. H. A. Tomlinson's paper is an exceedingly interesting one for the physician, and is but one of the many from the pen of a scientific man who writes from his personal observation and experience based upon original research in the hospital at St. Peter, Minn. Dr. Tomlinson is constantly striving to educate the physician and the public to treat the insane as one sick with a disease, and to get away from the idea that the insane are what the people usually declare, a demoniacal, maniacal, and turbulent class. Their early history, the history of their ancestors, the clinical aspects, the early recognition of mental disease, and the early care and treatment would do away with the objectionable features of what is considered insanity by the people, and bring with it a better understanding of the insane. The stigma would depart, and the individual would suffer no criticism for having been insane.

Dr. L. C. Mead pictured the paretic as very few writers on the subject have done. From his lucid account of the characteristic symptoms which usher in this disease, the careful physician should recognize it early, and prepare the family for the probable outcome.

The editor of The Lancet extends his compliments to the Aberdeen District Society, and wishes this progressive body of medical men continued prosperity; and he stands ready again to take the train for South Dakota whenever he is assured of hearing so excellent a program as that presented last month.

THE MINNESOTA STATE SANITARY ASSOCIATION

The meeting of sanitarians to be held in Minneapolis in January, 1904, promises to be the largest in the history of the association. The former meetings have been attended by experts and others interested in the advancement of sanitary science.

The public generally look upon such meetings as scientific programs with papers dealing with uninteresting topics; but, as a matter of fact, the papers are directed to the lay mind, and should be discussed by laymen as well as by experts. Physicians throughout the state should participate in the meetings, or, if unable to attend, they should see that their cities are represented by public-sipirted citizens interested in sanitary matters.

The object of the association is to cause wide-spread information and to invite discussion on subjects in which every man should show an appreciative understanding.

The daily press is the best carrier of this information, and heretofore the newspapers have published a review of all the papers.

The ever-present subject of the spread of tuberculosis will doubtless occupy a conspicuous place on the program. With the increasing interest, as well as the fear, on the part of the people of this plague, the instruction of experts cannot be too often repeated. Constant reiteration of plain facts, stated in plain terms, and the promise of a remedy for many of the sanitary failures will finally awaken the public to its duty. The prevention of disease, its management and control when present, and the segregation of infectious and contagious diseases is the basis upon which the association stands.

Everyone can help by house to house advertising, particularly when such a laudable object is the subject of the advertisement—the meeting of the State Sanitary Association.

STATE BOARDS OF CORRECTIONS AND CHARITIES

The meeting of state board of correction and charities, which takes place in Minneapolis November 14, 1903, will call out a large attendance. A great many persons who are charitably inclined, and who think they are interested in corrections and charities, should attend one of the state meetings and have their eyes and ears opened to the real truth. There is too much sentimentality and too little knowledge of these subjects among a certain class. Within the past few years, business men have gradually become more and more dependent on organized boards rather than on their own experience, for information and distribution of their funds.

The activity of the officers of state institutions and their willingness to participate in the council of state boards has added to the information of the citizen who is not in touch with the management of state hospitals, schools and penal institutions. It is surprising how much ignorance is admitted or displayed by the average man when questioned as to the care of the state department.

Physicians, as well as laymen, are asking for instruction, yet fail to grasp it even when it is within reach.

The care and treatment of the insane, the education of the defective, the control of the incorrigible, the life of the criminal and his possibilities for reformation, and the study of the pauper, are the subjects for discussion.

Dr. H. A. Tomlinson, the superintendent of the Saint Peter State Hospital for the Insane, is chairman of the meeting. There is every reason to believe the coming meeting will be instructive. The exact time and place of meeting will be announced in the daily papers.

CORRESPONDENCE

Atlantic City, N. J., Sept. 24, 1903.

Editor of The Lancet:

The annual meeting of the American Electro-Therapeutic Association, that has been in session at this place this week, has been well attended. and profitable in many ways. A feeling of sorrow has cast a shadow over the entire membership due to the recent death of really the father of the association, Dr. Robert Newman. Death came to him suddenly while he was still engaged in work.

St. Louis was selected as the next place for the meeting, and the first part of September as the time for it. Several other electrical conventions will be held at the same time and place.

The most interesting thing to me was the exhibition of radium by Dr. Margaret Cleaves. She had a decigramme of the bromide. Different specimens vary in radio-activity. The best on the market rates at 7,000, and is worth $200 a decigramme—enough whitish powder to about fill a one-grain quinine capsule. It comes in a glass tube, and in the dark it glows like a glow-worm. Its use will not be very expensive, as its power continues indefinitely, and it can be used over and over again.

Much is expected of radium in the treatment of malignant growths in cavities inaccessible to the *x*-ray.

Dr. A. C. Geyser, of New York, reported 18 cases of granular lids and pannus cured with the *x*-ray. Dr. Russell S. Boggs, of Pittsburg, reported 28 cases of various forms of tubercular troubles cured or very much improved by the *x*-ray and phototherapy.

Dr. Skinner, of New Haven, added some very encouraging points to his former reports on the treatment of deep cancer.

Dr. W. J. Herdman gave a very earnest plea for the older electrical methods, as opposed to the *x*-ray and the newer forms of treatment. And in this connection he mentioned a remarkable case of sarcoma cured by metallic electrolysis.

Dr. G. B. Massey reported the cure of tubercular glands by the zinc-mercury, amalgamated, positive electrode. Dr. Cleaves says he cures trachoma with metallic electrolysis, and Dr. Eaton removes glands and cures goitres by the use of large negative clay-pads and currents up to 150 milliamperes.

Several men reported the removal of albumen from the urine by use of the static currents.

I have been very fortunate in gaining entrance to the laboratories of prominent operators. Mr. Fuchs of Chicago, Dr. Leonard of Philadelphia, Dr. W. H. Boggs of Pittsburg and Dr. Cadwell of Bellevue Hospital of New York all showed me beautiful negatives of the hip and of kidney-stones, the latter showing the soft tissues, such as the kidney and the psoas muscles; and they assured me that with such negatives they could predict with certainty the presence or absence of stones.

Mr. Fuchs showed me a diamond that he had colored a beautiful amber by some process with the *x*-ray, and he had one colored as black as coal.

The advance being made in phototherapy is very interesting to me. In Dr. Hopkin's office in Brooklyn I saw a Finsen light using 80 amperes with water-cooled tubes and quartz lenses. The objection to this is that it takes an hour to give a treatment, and the current is very expensive. He also has a large marine arc-light using 40 amperes, and a French mirror giving a very powerful light for tubercular and neurasthenic conditions. He also has an arc-light cabinet.

In Dr. Skinner's office in New Haven I saw a very interesting case of senile gangrene where the process of the disease had been stopped, and a 50 per cent improvement was obtained in three weeks by the use of the dry hot-air body-apparatus.

It seems to me that all these various forms of physical therapeutics offer a wide field that should be of great assistance to the busy practitioner in the treatment of chronic diseases.

W. P. Spring.

NEWS ITEMS

Dr. N. D. Silver has located at Napoleon, N. D.

The new hospital at Heron Lake was opened last month.

Dr. S. D. Sour has moved from Worthington to Mountain Lake.

Dr. W. M. Theissen has moved from Jeffers to Henderson.

Dr. J. P. Caldwell, of St. Paul, has purchased the practice of Dr. N. M. Cook, of Milaca.

Dr. O. C. Maercklein, of Ostrander, will move to Pollock, N. D.

Dr. W. F. Wilson, of Lake City, is in Chicago taking post-graduate work.

Dr. W. B. Grinnell, of Preston, has gone to Chicago to do post-graduate work.

Dr. J. C. Rhoden, of Elk Point, S. D., died at Council Bluffs, Iowa, last month.

Drs. O. T. Sheriping and J. G. Vigen, of Fergus Falls, have formed a co-partnership.

Dr. J. G. Engstad, of Grand Forks, N. D., has returned from a trip around the world.

Dr. F. D. Brandenburg, a graduate of Bellevue, New York City, has located in Faribault.

Mrs. John Pullar, a trained nurse of long experience, has opened a hospital at Park Rapids.

Dr. L. P. Solsness, who was quite well known as a newspaper reporter in Minneapolis, has begun practice at Beaver.

Dr. Stanley Clements, of Montreal, has located in Mallard, and will establish a hospital and sanitarium at that place.

Dr. Frederick Leavitt, of St. Paul, has become associated with Dr. Parks Ritchie, with offices in the Lowry Arcade.

Dr. A. W. Wilson, who has been connected with the Cook County (Chicago) Hospital for several years, has located at Wilmot, S. D.

Dr. C. P. Ailing, a graduate of Rush, who has been practicing at Marine Mills, has moved to Minneapolis, and is located at 2423 Central Av.

Dr. W. B. Coyle, of Lakota, N. D., died on Sept. 30, after a long illness. Dr. Coyle was a graduate of Queen's College, Belfast, Ireland.

St. John's Hospital at Red Wing was formally opened last week. Its commodious building was formerly the residence of ex-Gov. Hubbard.

The Nurses' Bureau of Hennepin county are considering the advisability of refusing to register any but graduate nurses. Such a move is to be commended.

Dr. W. P. Spring, of Minneapolis, was elected first vice-president of the American Electro-Therapeutical Association at its annual meeting held at Atlantic City.

Dr. Benedick Melby, a recent graduate of the State University, who has been the house physician for a year at the Swedish Hospital, Minneapolis, has located at Hayfield.

The Hubbard County and Shell Prairie Medical Society was organized last month with the following officers: President, Dr. W. T. Stone; secretary and treasurer, Dr. C. W. Cutler.

Dr. F. E. Bissell, who has been surgeon at the Minnesota Soldier's Home for some time, has located in Maple Lake, and his son, Dr. F. S. Bissell, will be associated with him.

St. Barnabas Hospital of Minneapolis is putting in a complete electrical outfit, with a coil for *x*-ray work. Dr. W. P. Spring has been appointed consultant in electro-therapeutics, and will have general charge of this department.

The daily papers of Aberdeen, S. D., speak of the meeting of the Aberdeen District Medical Society as the most notable gathering of medical men ever seen in the state. This meeting is noticed in our editorial columns, and the papers read appear in this number of THE LANCET.

Dr. C. W. Woodruff has completed plans for establishing a hospital at Wykoff. The removal of Dr. G. E. Campbell last fall stopped the work at that time, but it will not go forward, and an excellent hospital is promised to the people of Wykoff, with a well-known consulting surgeon to assist in difficult operations.

The physicians' Defence Co. of Ft. Wayne, Ind., has been readmitted to do business in Minnesota under a decision of Attorney-General Douglass, who holds that the company is not liable to our general insurance laws. This company has already done a large business here, and has defended a number of suits, and always successfully.

The Mitchell District Medical Society was formed at Mitchell, S. D., last month. The district includes eight full counties and parts of four others. The following officers were elected: President, Dr. J. W. C. White, Plankinton; vice-president, Dr. Bert Menser, Bridgewater; secretary, Dr. E. F. Reamer, Mitchell; treasurer, Dr. C. A. Bower, Mitchell.

The Clay-Becker County Medical Society met in annual session in Moorhead on Sept. 28, and then joined the Cass (N. D.) County Medical Society at Fargo for a banquet. The officers of the Clay-Becker Society for the current year are: President, Dr. L. C. Weeks, Detroit; vice-president, Dr. E. R. Barton, Frazee; secretary and treasurer, Dr. W. J. Awty, Moorhead.

Dr. Louis B. Baldwin, who has been for over three years assistant superintendent of the North Dakota Hospital for Insane at Jamestown, has been elected superintendent of the new State Institution for the Feeble Minded, at Grafton, which will be opened next March. Dr. Baldwin is a graduate of the State University, class of '97, and his appointment will give his class-mates and the professors of the University much pleasure.

FOR SALE

$2,000 drug stock, all new and fresh; large territory; no competition. A good place for a doctor. My $1,000 practice goes with stock. Reason for selling: I have aged parents for whom I must care. Must be sold at once. Address W., care of THE LANCET.

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SYPHILIS*

By John Sutherland, M. D.

PIERPONT, S. D.

Mr. President and Gentlemen of the Aberdeen District Medical Society:—

I shall not indulge in useless historical research in regard to syphilis. Suffice it to say that syphilis was first recognized in Italy in the latter part of the 17th century, and that the nations have not jostled each other in the race to claim the credit of having first introduced the disease. From Italy the disease traveled through the countries bordering on the Mediterranean, eventually spreading over the whole of Europe, until to-day there is no country or community where we shall not find syphilis, if we look for it.

Ricord in Paris, in the beginning of the last century, pointed out the difference between the venereal diseases, and laid the foundation of our venereal knowledge of to-day. Previous to the time of Ricord the venereal diseases, syphilis, gonorrhea, and chancroid, were supposed to bear some relation to each other; that is, one was supposed to run into the other, or repeated doses of one would cause the other, or something like that. Now we know this to be different. In fact something of a parallel might be drawn between the venereal diseases, syphilis, gonorrhea, and chancroid, and the prairie-dog towns which we find on our western plains. Naturalists tell us that in the dog-towns we will find a prairie dog, an owl, and a rattlesnake dwelling together in the same burrow, creatures belonging to widely different natural orders. So it is with syphilis, gonorrhea, and chancroid: they are widely separated pathologically, and have nothing in common except that they are all found at the same place. The laity have always looked upon syphilis with an interest tinged with superstition on account of the palpable connection between syphilis and sin. Viewed in the light of modern pathology, however, syphilis loses much of its hideous aspect. It is an eminently curable disease, especially if compared with tuberculosis or cancer or the other infectious granulomata, as they are classified in pathology. It has many of the features of an acute disease, tending to run a definite course towards recovery. Syphilis intelligently treated may amount only to a comparatively mild affair, although the dreadful results of badly treated syphilis can hardly be exaggerated. Syphilis is more a disease of luxury than of poverty. If we compare a hundred cases of venereal disease in the leisure classes with a hundred cases of venereal disease among the laboring classes, we shall always find a higher percentage of syphilis among the cases in the upper social strata than in the lower. This is obviously due to the fact that the young women who dispense syphilis are more accessible to men with money in the early part of their career, when they have syphilis in a violently contagious form. Later the contagiousness of the disease wanes, and as the young woman descends in the scale, the more economical gentlemen are comforted with soft chancres and gonorrhea.

Syphilis is communicable only by direct contagion. One attack of syphilis renders the patient immune, and also confers a variable degree of immunity upon the children of the patient. It is undoubtedly a microbic disease. A microbe known as Lustgarten's bacillus is generally accepted as the specific cause. There is not sufficient evidence, however, to place this question beyond doubt. The thus far insurmountable obstacle to the development of the bacteriology of syphilis is the fact that the lower animals are immune to syphilis, and experimenters are unable to get at the knowledge obtainable by experimental inoculation. Scientific men are convinced, nevertheless, that it is a microbic disease. Like all microbic diseases it has a period of incubation. This period is twenty-one days. Twenty-one days from the time that the virus gains access to the circulation a characteristic chancre is present at the site of inoculation. If the period should extend beyond twenty-one days, it is evidence that the infective material has not gained immediate access to the circulation at the time of exposure, but has had to consume some time in making a portal of infection for itself. For instance, if the infection takes place, which is usually the case, at a pre-existing abrasion, there will be no deviation from the twenty-one day period. But if the infection material should get lodged in a fold of mucous membrane where there was no abrasion, it would have to destroy the epithelium itself, and make the necessary abrasion,—syphilitic virus has this power,—and the time occupied by the virus in working its way through must be added to the natural period of incubation. This period of incubation is no doubt founded upon some fixed law of pathology, and any deviation from it must always be susceptible of some explanation. The period of incubation is a very valuable diagnostic point, enabling us to distinguish between hard and soft chancre, the incubation period of soft chancre being only three or four days.

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*Read before the Aberdeen District Medical Society, Aberdeen, S. D.

Owing to the peculiar relation that syphilis bears to domestic and social life, and owing also to the fact that syphilis is peculiarly amenable to treatment, the diagnosis becomes a matter of more than passing importance Many patients come to us who have never had syphilis, but who have been treating for it for years. They often succeed in misleading good practitioners into confirming a previous alleged diagnosis of syphilis, made either by themselves or by some indifferent physician, who perhaps has allowed himself to be deceived by the patient's story, or who has mistaken a venereal wart or a soft chancre for a chancre, or has mistaken a medicamentous or other rash for a syphiloderm. These patients are known as syphilophobes, and are very difficult to deal with. They take much medicine, and rub various ointments and other substances on their bodies, and are therefore prone to more skin eruptions than ordinary people. These eruptions are of course regarded as syphilitic by themselves, and sometimes by their medical advisers. It is well to remember in these cases that a patient who has had syphilis will almost always show some unmistakable syphilitic lesion on his body, if a careful search be made. If he claims to have had syphilis over a year, he will almost surely have some typical syphilitic scar somewhere. It may be slight, but it will be unmistakable. If such evidences are not found we are safe in setting the case down as one of syphilophobia. These cases are so numerous that it is right to call attention to them.

THE CHANCRE

Hardness is inseparable from the conception of a chancre, in fact we speak of the chancre as the initial sclerosis of syphilis. Now, this hardness has something peculiar about it: it is more than thickness or toughness; it is a distinct hardness or sclerosis. It corresponds to the hardness of cartilage. Some ingenuity has been exerted by writers to convey the idea in words. One of the most useful practical similes is to say that it feels as if a piece of parchment or cardboard had been slipped under the sore. Other venereal sores are often rendered dense or resistant by caustic applications, but they never acquire the characteristic hardness of chancre.

The chancre is always single, never multiple. It does not possess the power of auto-inoculation, as does the soft chancre.

Being simply the infection atrium of syphilis it may be located anywhere. The lymphatic glands of the region where the chancre is located, are always enlarged, being painless and not matted together as in suppuration or tuberculosis, or soft chancre.

SKIN LESIONS

The skin lesions of syphilis are known in dermatology as syphilides or syphilodermata. They have certain features peculiar to themselves; they never itch; they have a peculiar color; and they describe circles or segments of circles. They differ from other strictly skin lesions in the fact that they ulcerate. They observe the rules governing skin lesions generally in passing the various stages of maculation, papulation, and pustulation, but go one step further and produce ulceration. The early eruptions are general, but as the disease progresses the lesions become localized, and ulceration, absent in the general eruptions, takes place when the lesions become localized. The skin lesions of syphilis are our most valuable diagnostic resources. Custom has taught us to divide syphilis into three stages: primary, secondary, and tertiary syphilis. These three stages are divided by intervals, which vary in duration according as they are influenced by conditions, such as treatment, resistance of patient, etc. In all three stages the symptoms begin gradually, reach a certain maximum, and then gradually diminish.

The first stage is marked by the presence of the chancre. General and local glandular enlargement, generally diffused macular and papular eruptions, sore throat, headache, loss of hair, and other symptoms of a superficial character, including mucous patches, are present at this stage.

A period of between six weeks and three months now intervenes, when we have the secondary stage. In this stage the skin eruptions are not general: they are more localized, and their tendency to assume the shape of circles or segments of circles is more plainly marked. The skin lesions now begin to produce ulceration. The glandular enlargements and other symptoms reappear. Taken in all, the symptoms give the impression that the disease has struck deeper, and involves deeper tissues, than the primary stage.

Ulceration and gummatous formation mark the tertiary stage. In this stage the bones are involved, and the connective tissues are affected. The gumma is the pathological product of this stage.

Headache of some form or other accompanies every stage in many of the cases. It is always worse at night, which is characteristic of syphilitic pains generally. Glandular enlargement also runs through the whole three stages. Ulceration, beginning about the end of the second stage, stamps the nature of the disease, because syphilitic skin diseases are the only acute skin diseases that ulcerate.

I cannot enumerate all of the symptoms of syphilis, because there is not a symptom of any disease that may not be a symptom of syphilis.

PATHOLOGY

The pathology of syphilis, reduced to a simple proposition, is a proliferation of the fixed tissue-cells. This proliferation is excited by the microbe or the toxine, or whatever it is. The endothelial cells in the blood-vessels, forming as it were the first line of defense, suffer earlier and more severely than the others. This results in a frequent blocking of vessels, and general injury to the vessel-walls, and many of the lesions of syphilis are accounted for in this way, as, for example, the ulceration, which is frequently a simple necrosis, due to the blood-supply of the part being cut off. If this proliferation of the fixed tissue-cells is studied in its various ramifications, it gives us a complex and interesting pathology, too deep to go into exhaustively.

TREATMENT

There is nothing more satisfactory in medicine than the drug treatment of syphilis, which is eminently a curable disease. This does not mean that the administration of drugs will undo the damage done to the tissues by the disease. To claim this would be equivalent to saying that water poured into a building damaged by fire, would repair the damage, but drugs will arrest the disease and prevent further injury. There are only two medicines worthy of mention in the treatment of syphilis. These are the mercurials and the iodid of potash. In the administration of mercury one idea must be kept constantly in view, and that is to get as much mercury as possible into the patient, not all at once of course, but given intelligently and continuously. The effect of mercury is curative, while the iodid is more useful in simply arresting the disease quickly, when important structures are threatened. There are two methods of exhibiting mercury, which are all-sufficient for the ordinary practitioner. These are by the mouth and by inunction. Other methods, such as deep injections into the muscles, etc., do not commend themselves for practical purposes. All of the salts of mercury are at our disposal for internal administration. The proto-iodid, however, in ¼ gr. pills after meals, is perhaps the most commonly used to-day in America. It is convenient to take, and it has the advantage of irritating the bowels before the salivary glands take it upon themselves to eliminate the excess of the drug. This gives us notice that we have reached the limit of present tolerance, and we can prevent salivation by stopping the drug or by reducing the dose. But we must never fail to resume it again as soon as possible. Inunction is the next method of importance in the treatment of syphilis by mercury. It is exceedingly simple. Rub blue ointment into the soles of your patient's feet or under his arms or wherever you may select. The quantity of the ointment and the frequency of the rubbings are to be governed by conditions of the case, a piece of ointment as large as a hazelnut being the usual thing for the average case.

There is some contention among syphilographers as to the propriety of beginning treatment at once on the appearance of the chancre, or waiting until the early skin eruptions make their appearance. While the syphilographers have a perfect right to quarrel over this point, there are several good reasons for the general practitioner to adopt the waiting course. In the first place you confirm the diagnosis, not only for your own satisfaction, but you let the patient know that he really has got syphilis, and that he is really sick. Whereas, if you hold back or obscure the early eruptions with mercury (a thing you certainly can do), the patient will withhold his so-called confidence. You can also form a better opinion as to the severity of the infection, for the early eruptions are a better index as to whether the case is severe or not than the chancre, the evolution of the chancre depending entirely on its location. Never burn or otherwise maltreat the chancre. It will get well quickest if left alone. Just keep it clean, and dust it with some inert powder. If you apply irritants you will delay its healing.

The use of the iodid requires somewhat more skill than the use of mercury.

Suppose an ulcerative syphilitic lesion started in the neighborhood of the eye or some other important structure, it would be necessary to run our iodid up to the maximum dose as quickly as possible. The fact that iodid irritates the stomach renders caution necessary. It is customary to begin with 10 or 15 drops per dose of the saturated solution after meals, and increase a drop per dose every day. Now, this must not be done timidly but boldly, and the dose increased until the lesions start to heal, when the dose may be held there until they are completely healed and then gradually decreased until we reach the starting point, when mercury should be substituted. The hypodermic injection of iodid appears more rational than the injection of mercury. The simple administration of the remedies separately gives better results than mixed treatments. Mixed treatments do for patients who cannot be depended upon to follow simple directions, but who know enough to take a spoonful of medicine at stated intervals. Of course it is understood that hygiene is an essential part of the treatment.

There is no lesion of syphilis that requires surgical treatment. The gumma especially should never be attacked with the knife. If you attempt the removal of syphilitic glands or gummatous growths you will notice that they always reappear as big as ever a few days after you are through operating. These things can all be removed by iodid of potash properly given.

DYSENTERY.

Kayensky (Rev. de Therapeutics) advocates the use of ice suppositories in the treatment of this disease, slipping them in one after another as they melt until five have been used. Tenesmus readily yields to this treatment, which is repeated from time to time as necessitated by recurrence. The frequency of the stools rapidly lessens, the general condition is also favorably influenced and recovery soon takes place.

A CASE OF LEUKEMIA*

By C. H. Bradley, M. D.

MINNEAPOLIS

Leukemia is a disease distinguished by a vastly increased number of leucocytes in the blood, and by certain fairly well-marked general symptoms.

Three types of the disease may be distinguished, both clinically and pathologically.

1.—The so-called myelogenoic leukemia (myelocythemia), characterized by elements in the blood and organs corresponding to the cells of the bone-marrow.

2.—Chronic lymphatic leukemia (chronic lymphemia), presenting in the blood and blood-making organs and secondary nodules vast numbers of elements similar to the small lymphocytes.

3.—Acute lymphatic leukemia (acute lymphemia or lymphogonemia), marked by a pouring forth into the blood-stream of cells normally seen in the germ-centers of the lymph glands only.

It seems probable that all of the real cases of anemia infantum, pseudo-leukemia, will ultimately be classed with leukemia.

The primary cause of leukemia is entirely unknown. The favorite theory is that of infection. Dr. J. B. Nichols gives the following as the best theory of the causes of leukemia:

"*a*. That it is due to a vice in the internal processes of cell-life and division, which comes into generalized activity and results in exaggerated leucocyte hyperplasia.

"*b*. That it is due to the action of autogenous-toxic substances.

"*c*. That it is of parasitic or infectious origin, the parasite acting by the production of toxins or otherwise.

Löwit observed in the blood of leukemic patients bodies that he considered to be the cause of the disease. These bodies were noted by Hirshfeld and Tobias, but as they were unable to cultivate them or to inoculate animals, they concluded the bodies were not parasites. F. Raymond also made extensive cultural experiments with leukemic blood with entirely negative results. These failures to cultivate Löwit's organism are not conclusive, however, since it may belong to the protozoa, which are not so easily manipulated as other organisms.

The theory of the infectious nature of the disease is supported somewhat by the case reported by Obrastow. An orderly who had charge of a patient suffering from leukemia, and who assisted in drawing the blood and plugging the nostrils, and also in caring for the urine and feces, was taken forty days later with acute leukemia, terminating in death.

SYMPTOMS

Briefly, the symptoms of the spleno-medullary form are enlarged spleen, enlarged liver, and pain over the splenic region. The enlargement of the spleen is usually marked, and it often fills the left abdomen. Gastro-intestinal symptoms are very common, taking the form of mild indigestion with eructation of gas; percentage of hydrochlorid acid reduced. Diarrhea is present in 20 per cent of the cases (Shattuck & Cabot). Tachycardia is extremely frequent, due, in part at least, to the pressure from below. Edema of the legs and ascites are often noted. Dyspnea is a feature seldom absent. Hemorrhages on the free surfaces or into the tissues occur in the majority of cases. Sight and hearing are often affected. All cases are accompanied by fever, usually moderate.

These patients, if the tumor be large, usually have a peculiar carriage simulating the walk known as the "pride of pregnancy," due of course in these cases to an attempt to adjust the load in the abdomen. Debility with general weakness is present. Neuralgias, especially hemicrania, are common.

Physical Signs.—When the patients come under observation they usually show some degree of pallor; there is also often a brownish-yellow discoloration of the skin. Moderate enlargement of the lymphatic glands is noted in many cases.

The apex beat of the heart is commonly seen in the fourth interspace. Murmurs may be present in cases with much anemia.

Inspection of the abdomen shows it to be out of proportion with the rest of the body. The superficial veins are enlarged especially if the liver shows marked hypertrophy.

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*Read before the Hennepin County Medical Society, Oct. 5, 1903.

By percussion and palpation the liver and spleen are readily outlined. In many cases the liver and spleen meet near the median line, and fill almost the entire abdomen. These tumors are almost constantly ventral, lying just beneath the abdominal wall. The splenic tumor is flat and firm, and the notches can usually be easily felt.

Examination of the retinæ often show hemorrhages. Tenderness over the sternum is common, and tenderness over other bones is noted at times.

Priapism occasionally occurs.

Mental changes occur late in the disease in the form of mental dullness or delirium.

THE BLOOD.—The normal percentage of the different forms of white cells in the blood of the healthy adult is given by Cabot as follows:

Lymphocytes, small, 20 to 30 per cent.

Lymphocytes, large, 4 to 8 per cent.

Polymorphonuclear neutrophiles, 62 to 70 per cent.

Eosinophiles, 5 to 4 per cent.

Mast-cells, .025 to 5 per cent.

Cabot states that if the case is seen early in the disease no anemia is observed; and later there is commonly some anemia with nucleated red cells, poikilocytes, etc.

The drop, as it flows from the puncture, appears less clear than in normal blood, and it does not spread well between the cover-glasses, making it difficult to produce satisfactory smears.

The count of the leucocytes is usually high in the myelogenic form. Cabot gives the average in 36 cases as 438,000 per cubic millimetre; highest in the series 1,072,222; lowest, 98,000.

The presence in the blood in large numbers of myelocytes is the main feature in the blood of myelocythemia.

In Cabot's 28 cases myelocytes averaged 35 per cent. Maximum, 60 per cent; minimum, 20 per cent.

Cabot remarks that in no other disease known is there such a large proportion of myelocytes. There is an absolute increase in the polymorphonuclears in leukemia, but an actual decrease as regards the whole numbers of white cells. The average was 40 per cent in Cabot's cases, ranging from 17 to 72 per cent.

There is usually an absolute increase of lymphocytes, but the percentage ranges much lower than normal, i. e., 10.6 per cent.

The eosinophile percentage was increased, averaging 5.1 per cent in Cabot's cases. This total was made up of ordinary polymorphonuclear eosinophiles, dwarf eosinophiles, and eosinophilic myelocytes.

In the stained blood smear, the field seems to be quite taken up with the myelocytes, as they crowd the other cells aside, and are not deformed as the other cells often are.

The cells in leukemic blood take the stain very irregularly. These two features of leukemic blood, the large number of myelocytes and polymorphism, divides it sharply from the blood in other conditions.

The primary pathological changes in leukemia are in essence, so claims H. Dominici, "a hypergenesis and generalization of the myeloid tissue." The manifestations are:

1.—The multiplication of this tissue in the zones in which it exists naturally active, as the bone-marrow of the sternum, ribs, and spine.

2.—The revivifying of this same tissue at the points where it persists in rudimentary or latent condition, after having passed through a phase of activity at some period in the intra-uterine or extra-uterine life, i. e., in the spleen, liver, ganglia, or diaphyses of the long bones.

3.—Multiplication in the vessels of elements of the myelogenic series, issuing from these various foci, thus forming remote colonies.

The diagnosis is usually not difficult if the blood is examined at all; but there is often danger that the case will be diagnosed as malaria, rickets, syphilis, or tuberculosis, etc., and the blood be entirely neglected.

The clinical data with the blood picture, enormous increase of white cells, large number of myelocytes, and the polymorphism of the cells, serve to clearly distinguish the blood of leukemia, that is, in the active stage.

E. Block reports a case of sarcoma originating in the vertebræ in which myelocytes were numerous, and the spleen enlarged, but the local tumors would serve to distinguish such a growth from leukemia, and its course would be different from leukemia.

The various treatments pursued have had

little effect in preventing a fatal termination, although arsenic has seemed to have a modifying effect on the disease, reducing the size of the spleen and the number of white cells.

CASE

W. R——, age 26 years; occupation, fireman; born in New Brunswick; came to Minneapolis when young; father dead, but cause not known; mother living, has had asthma for many years, probably a tubercular disease of lungs.

The patient was always of spare build, but healthy till March, 1901, when he had an attack of smallpox. In September, 1901, he developed a specific urethritis, which persisted for the usual period, and was followed by stricture.

In April, 1902, while at work shoveling, he became very warm, and while perspiring sat down to wait for a wagon. He felt chilly, and developed a severe pain in the left abdominal region about the height of the anterior-superior spine of the ilium.

This pain persisted for some days. In June 17, 1902, while engaged in a pillow-fight in the sleeping apartment of the fire-house, and being hard pressed by the enemy, he attempted to retreat by sliding down the pole. In his hurry he gained greater momentum than he intended, and struck squarely on the heels and received a very severe jar. He felt stiff and sore and somewhat weak after the injury. The next day, June 18, he developed severe and persistent priapism, which lasted for six weeks. With it there was some tenderness along the entire length of the penis. With the disappearance of the priapism he felt well, but was weak especially in the lower limbs.

In September, 1902, while attending the State Fair he had an attack of vertigo, felt very sick and weak, and vomited. The patient at this time was seen by Dr. Bell, and a diagnosis of leukemia was made. He then went to St. Mary's Hospital, and came under the care of Dr. H. B. Sweetser, whose kindness enabled the reporter to observe the case October 13, 1902. The white cells numbered 400,000; poikilocytosis; large proportion of myelocytes (differential count not made); weak; walks with difficulty; complains of roaring in ears and dizziness. Hemicrania of left side of the head is very troublesome; has a rapid heart, but chest otherwise negative; tenderness over the spleen on palpation; dyspnea is marked; urine shows traces of albumen; spleen is easily made out, and extends slightly below umbilicus and to the median line. The notches are distinctly felt. Liver is slightly enlarged. Tenderness over the sternum, on palpation, is marked, and there is slight tenderness over the shin bones. He has more or less distress after meals with eructations of gas. The bowels move from two to five times daily. Hemorrhage from the nose is troublesome. Lymphatic glands are apparently not enlarged.

He left the hospital in October, and has been able to be about ever since.

January, 1903, white, 864,300; large number of myelocytes; red, 3,000,000; hemoglobin, 60 per cent. Weakness and other symptoms persist. The white cells reached the maximum in April at 956,208. Spleen was somewhat reduced on this date.

May and June.—No count was made.

July 3d.—Whites, 670,000.

August 18.—Whites, 472,000.

September 17.—White cells, 630,000; myelocytes, 57 per cent.; erythocytes, 3,600,000; hemoglobin, 80 per cent. (Tallquist).

Average of counts, (4) since July 1st: myelocytes, 48 per cent.; polymorphonuclear neutrophiles, 36 per cent.; eosinophiles, 5 per cent; lymphocytes, 11 per cent.; poikilocytosis; normoblasts, very few mast-cells.

The spleen on September 17 was reduced in size, being about three finger-breadths beyond the costal margin. The liver has apparently increased in size, extending as low as the umbilicus. The abdomen was distended and abdominal veins enlarged. He complained of the dyspnea, had no neuralgic pains. The apex beat was noted in the 4th interspace. No murmurs. Had a hacking cough, and complained of trouble with both sight and hearing, both seemed somewhat impaired. The yellow pigmentation of the skin was not marked.

This, in brief, is a partial record of the history and symptoms in this case.

The prominent features of this case, it seems to me, are the seeming relation of trauma to the disease. It is entirely within the realm of probability that the disease was developing prior to the injury, and that traumatism simply brought it into active life. However the matter may be, the symptoms were only noted after the accident.

The early and persistent priapism is only an occasional symptom in this disease. It has been followed in this case by loss of sexual desire and power of erection. There was a decrease in the size of the spleen, and increase in the size of the liver. I was unable to determine whether this is common or not. The high white-cell count, almost 1 white to 3 reds at one time, is considerably above the average in the myelogenic form.

The brownish-yellow color of leukemia is hardly noticeable. The skin has been rather harsh and dry, and the patient has had more or less acne, especially on the face.

The treatment in this case has been the use of remedies usually recommended. The solution of arsenic was tried at St. Mary's, and the patient was discovered to have an idiosyncrasy against it, being unable to take it by the mouth, even in very small doses. A solution of sodium arsenite was then given hypodermically with no ill effect.

Extract of bone marrow seemed to relieve the so-called toxic symptoms somewhat and improved nutrition. The epistaxis has been controlled by extract of suprarenal gland, given as needed.

During the last three months, the patient has been taking arsen-hemol by the stomach without any untoward symptoms. The arsenic has seemed to have the effect noted by Osler, of reducing the size of the spleen.

On the strength of Dr. N. Senn's reported experience with the *x*-ray, the patient has received daily applications of these rays since the middle of September. It is too early as yet to draw any conclusions.

It has seemed to me that Dr. Senn's conclusions were hardly warranted by the relief and cure of only one case of leukemia, but since it is the only cure offered its application seems justified. Senn holds that the rays act by killing the micro-organism which cause the disease. Pusey reports two cases treated, one negative and the other nearly so, but the treatment was not pursued steadily in these cases.

It will probably be discovered that the *x*-rays, if they are effective at all in this disease, act by their inhibitive effect over the too active myeloid tissue in those situations where it is naturally active,—sternum, ribs and spine.

ATYPICAL FORMS OF MASTOID DISEASE*

By H. McI. Morton, M. S., M. D.

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MINNEAPOLIS

The typical mastoiditis is of sufficient frequency to offer a familiar clinical picture. So far as this typical phase of the disease is concerned I shall have no further remarks other than to offer a plea for the performance of a more thorough and intelligent operation than has been the rule in America, and so far as its prevention is concerned a plea for a more routine performance of paracentesis in all acute diseases of the middle ear. The four cases which I briefly present have atypical features of more or less interest and importance.

Case I.—*Bilateral Mastoid Disease.* Mrs. R——, aged 44, a French woman, consulted me March 26, 1893. The patient had been a great sufferer for many years with nasopharyngeal catarrh. While using a cold nasal douche in the nose she set up acute inflammation of both middle ears, which has now extended into bilateral mastoid inflammation. After an attempt to promote resolution by medicinal means had failed, both processes were opened on April 4th by the chisel and mallet. The case proceeded to an uninterrupted recovery.

Remarks.—Bilateral mastoiditis, while not essentially different in any way from unilateral involvement, is clinically interesting on account of its rarity. Although many operators may have had to deal with cases during the past few years,—and I have no doubt that this is true,—few cases have been handed down in literature. It is with the hope that this report may call forth others, as well as the interest in itself, that I offer this history.

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*Read before the Minnesota State Medical Society, June 15-17, 1903.

As stated, in so far as the cause and pathology is concerned, the conditions are as found in ordinary mastoid involvement. It is true, however, that additional gravity is added to the course of the disease, and may give rise to perplexing problems as to the advisability of operating upon both at one time, or singly. In a case reported by Stillson in the Annals of Otology for May, 1897, the picture was not of a well defined double mastoid involvement, the typical course of the disease running in the left ear only. This case is reported practically as it appeared in the Laryngoscope of February, 1899, in an article dealing with bilateral mastoid disease. I think that if operated upon promptly both mastoids may be opened at the same time and without greater danger than in monolateral involvement.

Case 2.—*Mastoid Neuralgia.*—Miss G——, aged 35. No history and no present evidence of past or present inflammatory ear disease. For several years the patient has had constant neuralgic pain over and about the mastoid processes of both sides. She has a follicular pharyngitis. The treatment of this condition, with a general treatment directed to her neurotic condition, gave no relief. Upon deep pressure over the mastoids some tenderness could be elicited. The severe neuralgic pain continuing after all available measures had been tried, as a last resort, I opened both mastoids. Some relief followed, but this was not marked, and seemed to be only temporary. After waiting a year and with no abatement of the trouble the patient returned, and I found suppurative disease of the accessory sinuses of the nose and especially, I think, of the sphenoidal sinus, conditions which had not before evidenced themselves. Later I shall probably be forced to perform a radical operation upon these cavities.

Cases of mastoid neuralgia may find their origin in pharyngeal conditions, in disease of the accessory sinuses, and possibly in local conditions, as in the entangling of sensory nerve filaments in an eburnated mastoid process. Tillman justifies the opening of the mastoid in such intractable cases of mastoid neuralgia upon this latter ground. After a careful study of this very intractable and instructive case, as well as of some others with symptoms of a less marked character, and in the light of a better understanding of the significance of disease of the accessory sinuses, I believe that many intractible cases of mastoid neuralgia may find their origin in diseases of these cavities, and especially of the sphenoidal sinus.

Case 3.—*Acute suppuration of the attic extending into an atypical subperiosteal mastoid abscess, and without perforation of the membrana tympani.*

H. F.——, aged 11. When first observed considerable swelling and redness without fluctuation existed back of the auricle. Upon the following day the inflamed area had moved above the ear, and had extended forward over the temporal region. The third day its return, over the mastoid, with increased swelling induced me to make a Wild's incision. No pus appeared after this procedure, although the incision was carried to the bone. There was no discharge from either ear and the drumhead on the affected—the left—side was not noticeably red, although Shrapnel's membrane was red and somewhat distended, as was also the fundus of the canal at its superior margin. The peculiar migratory character of the area of inflammation was quite inexplicable, until an operation, which exposed the attic by displacement of the auricle and canal, showed acute purulent inflammation of this division of the middle ear and isolated from the tympanum proper. Instead of perforating the upper division of the drum, that is to say, Shrapnel's membrane, it had burrowed long lines of what was evidently lesser resistance anteriorly, posterior-inferiorly, and posterior-superiorly, and at times receding, thus giving the peculiar migratory character to the disease.

Case 4.—*An exaggerated case of eczema erythematosum, simulating subperiosteal mastoid abscess.* Baby S——. Although the child had no history of ear disease on the left, i. e., the affected side, a discharge which had existed for several weeks on the other side, with a marked swelling and redness, attended with a high temperature on the left side, led me to make a Wild's incision through the swollen tissue. The signs over the mastoid had arisen very suddenly, and were attended with symptoms of great distress and restlessness, and I therefore felt justified in concluding that I had to deal with a mastoid abscess that had followed an acute middle-ear inflammation. I was the more confirmed in this opinion as the canal was much swollen posteriorly, and thus prevented inspection of the drumhead. The incision was attended with no discharge of pus and with very little hemorrhage. The subsequent course of the disease confirmed the diagnosis of a well known dermatologist of eczema erythematosum. The recurrent tendency of this form of eczema might lead one, had previous attacks existed, to suspect that he had to do with this disease rather than with subperiosteal abscess, and, furthermore, had the disease existed for some days, *the absence* of that peculiar displacement forward of the auricle so conspicuous in subperiosteal abscess might justify one in the belief that he had to deal with some inflammatory skin disease. I think the case is of considerable interest, as well as of some clinical value.

These four cases are not what could be called medical curiosities, but simply such atypical phases of disease, within and without the mastoid, as may occur more or less frequently, and for this reason I present them very briefly for your consideration.

This subject of mastoid disease brings to my mind the importance of an early paracentesis in all acute middle-ear disease as a prophylactic measure directed against this disease, as well as chronic suppurative disease of the middle ear with its constant danger of serious complications. In a recent communication to the Northwestern Lancet I dwelt upon the importance of early paracentesis and the danger in any expectant plan of treatment when dealing with acute inflammations of the middle-ear. This operation in such cases is clearly indicated, is safe, and is a simple one to perform.

Finally, I desire to express myself as favoring an exploratory operation, which displaces the auricle forward, and exposes the attic and middle-ear in old-standing cases of suppurative middle-ear disease.

I have not discussed those more common departures from the usual course of mastoid disease, such as the perforation of the outer tablet, followed by tedious fistula, or exfoliation of a sequestrum, or perforation on the median side of the process attended with burrowing of the abscess into the cervical region, known as Bezold's disease, since they are conditions more commonly discussed in works dealing with this subject.

IODIPIN

By J. T. Moore, M. D.

MINNEAPOLIS

In the past few years, the multiplicity of pharmaceutical productions has been so pronounced that the physician through whose hands they all have to pass is more than perplexed to sift the ones patent for good from those which evidently are designed to catch the almighty dollar rather than to alleviate disease.

Many of the new synthetical products have truly made a name for themselves and a position in the physician's armamentarium. Others have been and are still being relegated to the innocuous desuetude from which they never should have emerged. It is frequently a new combination of the older remedies that stands the test of time and experience, and makes a genuine addition to the pharmacopea.

Thus we find quinine and euquinine taking the place of the more crude cinchona compounds; bromopin and combinations of bromides, supplanting the single bromide. Thiocol, guaiacol, duotol, and creosote carbonate, taking the place of creosote; the assimilable irons from organic substances, instead of the preparations from the metallic iron; the various pleasant elyxirs in place of the nauseous and bitter tinctures. All of these have marked a period in the administration of remedies by the regular practitioner. Iodine and the iodides have occupied as wide a field of usefulness as any other remedy or class of remedies. Their utility is conceded after wide experience in so many conditions. There is no combination to replace them, as a general or specific alterative, as an absorbent in glandular affections, as an arterial dilator through the vasomotor system, as antispasmodic in asthma or expectorant in accompanying bronchitis, or as a remedy for relief of many symptoms dependent upon arteriosclerosis. In the great field of antisyphilitics it has no rival when used in the proper stage of the disease or against many consequent conditions depending upon the syphilitic diathesis. Iodine in its resublimed state is not adaptable for internal administration excepting in the comp. sol. (Lugol's solution). The tincture has been used internally, but as a rule it does not agree well with the stomach. The iodides are probably the more used and give the best results in the many conditions where they have been prescribed. The potassii iodidum is decidedly hard on the stomach, in fact its tendency to produce catarrhal conditions of all mucous membranes, restricts its dosage or prevents its use in many cases. Heretofore it has been prescribed more than all other preparations of iodine put together. Sodii iodidum while acting less aggressively upon the stomach is much less effective than the potassium salt.

Recently a new preparation of iodine has been placed upon the market by Merck & Co. of New York.

It is a chemical combination of iodine with sesame oil. The chemical change between these substances is as complete as that which produces the alkaline iodides. It, however, partakes more of the character of an organic compound and hence is more digestible and assimilable than the metallic preparations.

The combination with the fatty acids changes its characteristics in taste, odor, and irritating properties.

It is manufactured in two strengths, 10 per cent and 25 per cent. The 10 per cent preparation is for internal administration while the 25 per cent solution is for hypodermic use.

It is a light yellow to brownish color, liable to change to a darker color when it stands for some time in a dark place. It is of an oily consistency and possesses an oleagenous taste; becomes cloudy when exposed to a low temperature, but clears on application of gentle heat.

The investigation of Prof. H. Winternitz who introduced it shows clearly that whether given internally or by hypodermic, it is carried to all the tissues of the body. When given internally the iodine is liberated in the intestines, or in the blood after absorption and converted gradually into the soluble iodides, while the oleagenous principle is oxidized and acts as a nutrient. It is eliminated gradually and continuously, hence it may be administered for long periods of time. My experience has been that it does not interfere with digestion or produce symptoms of iodism unless given in heroic doses for some time.

I have found a decided reaction of iodine in the saliva in from 20 to 40 minutes after administration showing that it is rapidly taken up and carried through the system.

Its therapeutical indications are met in all the conditions mentioned before where iodine is the indicated remedy.

My own experience has been confined more particularly to its utility as an antisyphilitic. There are many sequences of this disease where its power has been manifested in a particularly happy manner.

No one of any experience will gainsay the beneficial influence of potassium iodide in those cases, but unfortunately we find too many cases where the iodide cannot be carried to its full therapeutic value on account of its effect upon the stomach. It is in those cases, where we are at sea what to do for our case, that iodipin steps in and fills the requirements in the most satisfactory manner. I can best give the result of my experience by quoting cases where I have used it.

The first case came under my care while on duty at the City Hospital during January and February, 1902.

Case I.—Aneurism of ascending aorta large and bulging through third right intercostal space. It was very tense and the pulsation was heavy and gave the impression of a thin wall. The history was of post-syphilitic origin. Potassii iodidum was being used but could not be carried to a full therapeutic action on account of the stomach. I gave this case 20 m. of the 25 per cent sol.

hypodermically once a day for about three weeks when my term of service ended.

The force of the circulation was reduced, the pulsation of the tumor not nearly so marked and the patient was much more comfortable while the iodipin was used. This case is now in St. Barnabas Hospital under the care of a lodge physician. He is now taking pot. iodide with mercurial inunctions. The bulging is reduced fully one half and the firm resistance to pulsation shows that a fibrinous deposit has taken place in the sac. His improvement dates from the administration of iodipin. His system became habituated to the presence of iodine so that he was able to resume his iodide in much larger doses. Several physicians who saw him at that time did not think he would live this long.

Case 2.—Also a hospital case and a chronic syphilitic. Patient was taking potassii iodidum grs. 45 three times a day. This produced such severe gastric irritation, evidenced by nausea and epigastric pain, coated tongue and loss of appetite that it became necessary to stop the iodide.

I ordered 20m. of the 25 per cent iodipin hypodermically, once a day. In a week all the gastric symptoms cleared up and the luetic symptoms were well under control. This patient improved steadily until he left the hospital. I may say with regard to these cases, in the light of subsequent experience I should have used much larger doses and I believe I would have procured still more marked effects, though the result was better than I had looked for.

Case 3.—Syphilitic history about one year's standing. Had been treated by a specialist by constant and full doses of mercury. His mouth was in a very bad condition from mercurial stomatitis plus mucous plaques.

He was unable to eat solid food and his sleep was much interfered with from the pain and annoyance of this condition. I put him on 10 gr. dose of pot. iod. with Sarza comp.

We tried this faithfully for about 10 days. The action on the stomach was so marked that I could not increase the dose. The mouth was some better but the feeling of general depression was so great that he was very much discouraged. I now put him on ʒi. doses 10 per cent iodipin one hour after food three times a day and gradually increased to ʒii. doses. In five weeks his mouth was well, his constitutional symptoms had almost entirely disappeared and he had gained 10 pounds in weight. His own version was that the medicine acted like a charm. He is still under treatment with every prospect of a speedy cure.

Case 4.—To me this has been a very interesting and most instructive case. The luetic history runs back some eight or ten years. Six years ago she had a severe double pneumonia followed by acute meningitis. Her ravings were so violent that she had to be kept upon the bed constantly by the nurse in the hospital.

Knowing the previous history I added to the general treatment antisyphilitic remedies. She recovered and for four years appeared perfectly well. She then was attacked with severe cephalalgia, in a few hours was out of her head and was sent back to hospital. This attack was undoubtedly precipitated by the use of liquor. Her recovery was slow under iodides and mercurials and she was kept in hospital about a month. For several subsequent months she took iodides at irregular intervals. Some three months ago she was again taken with the severe cerebral pains, complained of numbness of the tongue and side of face and some times this extended down the side. There was not the slightest doubt but cerebral syphilis was again asserting itself.

The routine of iodides in doses which she would tolerate was a slow process and I feared we had at last reached the final issue.

I put her on ʒi. doses 10 per cent iodipin three times a day and in 48 hours the symptoms were so far subdued that we did not find it necessary to send her to the hospital or even retain the nurse. She steadily improved and in a week's time was feeling very comfortable, appetite increasing and growing stronger. I gradually increased the dose to ʒii. which has produced no iodism other than the appearance of a few acne spots on the face. This patient though apparently well is still taking ʒi. doses which I shall continue for another month when I hope to discharge the patient cured so far as those cases are cured.

To sum up I believe we have in iodipin a most potent remedy in all cases bearing a syphilitic history, while we have every reason to believe that it may ultimately take the place of iodides in all cases where they have been used.

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NOVEMBER 1, 1903

DOCTOR SAMUEL C. JOHNSON

The sudden death of Samuel C. Johnson, of Hudson, Wis., on Oct. 16, was one of the inscrutable warnings that cause men to halt in the midst of work, and wonder why such a good and useful man was called upon to rest.

Dr. Johnson graduated in 1864 from Long Island Hospital College, of Brooklyn, N. Y., and as a young man located in Hudson, where he practiced for nearly forty years. From the time he began practice until his death he was a prominent figure in public affairs, although his general attitude was retiring, never conspicuous, but his influence was impressive.

He built up a very large practice, office and consultation, and was recognized as an internalist, surgeon, and expert. His success and prominence were due to his sterling character, his earnestness, studiousness, good judgment, and wise counsel. He was honest and outspoken in everything, yet he was a most genial man. He was loved by many, and trusted and respected by everyone who knew him.

From the fact that he resided but a short distance from the Twin Cities many of his friends and patients were from St. Paul and Minneapolis; the larger share, however, came from the wide areas in Wisconsin tributary to Hudson.

A man of his sort, like a great statesman, is the one chosen from the many called. No one can take Dr. Johnson's place in the hearts of the people. His successor must prove his worth by years of good work. Neither can the physician who hopes to gain the dead man's place in medicine expect immediate results.

Dr. Johnson acquired by his long and painstaking experience a judgment that comes to but few. He could see into the future a much clearer picture than many men see in the present. In order to prevent outside influences from interfering with Hudson's enterprise, Dr. Johnson bought the Hudson Sanatorium, which was an institution left without support. The Sanatorium has succeeded under Dr. Johnson's supervision, and was running to its full capacity. Although this was an additional burden upon him it was cheerfully assumed and as cheerfully managed.

Wherever Dr. Johnson appeared everyone brightened to his winning smile. His personality was fascinating, his friendship sincere, and his advice sound.

He was a great physician.

DR. FRANK BILLINGS

The many friends of Dr. Frank Billings, the foremost practitioner of Chicago, will doubtless be surprised to hear that an operation for an infected gall-bladder was performed upon him a few days ago by Drs. McArthur and Bevan. The patient is doing well with every prospect of speedy recovery.

Dr. Billings has been working under great pressure for several years, and at times when ill enough to be in bed, yet his indomitable force has carried him through.

THE LANCET expresses the wishes of a large body of physicians for a speedy and full recovery.

REGISTRATION OF NURSES

To carry out the plan of a national association of nurses, an effort is being made to register only graduate nurses at the Bureau of the Hennepin County Medical Society. Graduate nurses in the city have taken the matter into serious consideration, and an attempt will be made to interest the Hennepin County Medical Society and the Young Men's Medical Club.

There is much to be said on this subject in favor of such a plan, and doubtless the medical societies will support the measure. There are some objections, however, which may be raised and which may for a time lead to much discussion. The movement is like many other similar organizations: the advancement of the presumably proficient and the crowding of the less fortunate. Many practitioners who labor among the poorer classes will adhere to the untrained nurse, partly because the introduction of an up-to-date nurse tends to disturb the relations between the physician and his patient, and partly on the ground that many of the sick are unable to pay the fees demanded.

The number of untrained but good nurses is large enough for them to form an association of their own. This they may do, and bring their prices within reach of the middle classes, and thus make it more difficult for the trained nurse to maintain her position. This must be expected for a time until the people are educated, or until prices are uniform and accepted.

It may be argued that many of the graduates of training-schools are not proficient, as many young practitioners of medicine are not properly qualified by experience, tact, personality, and culture. The argument holds good for the present, but each year sees a better class of applicants for the training-school and schools of medicine, and the ultimate outcome will be a better class of both professions.

A list of untrained nurses is a necessity for a certain class of patients, and this will always be in evidence and will in no way prevent the trained nurse from advancing as rapidly as possible. This is the year for associations, and the nurse must keep up with the procession, keeping in mind, however, that circumstances weed out the unworthy in time, and only the best survive.

Whether trained or untrained, the medical societies must keep in touch with both classes, in order to secure the best service for the patient, rich or poor. As in other walks of life skilled labor must not bear down too hard on the unskilled. Both have a mission to perform, and each must be permitted to earn its wage.

We publish in another column a well-written letter from a graduate nurse on this subject.

A Berlin statistician has figured out that piano lessons at an early age are responsible for numerous cases of nervous diseases. He estimates that out of 1,000 cases among children, 600 were due to piano practice.

CORRESPONDENCE

THE GRADUATE vs. THE NON-GRADUATE NURSE

Minneapolis, Oct. 21, 1903.

To the Editor of The Lancet:

The question recently submitted to the Library Committee of the Hennepin County Medical Society by the committee of the Graduate Nurses' Association relative to eliminating all except graduates of recognized schools from the physicians' and Surgeons' Nurses' Bureau is of interest to every physician.

If the nurse is recognized as the doctor's valuable assistant, we may well ask, "Does training make her more valuable?" When the question of lengthening the hospital course from two to three years was considered, the doctors agreed with the superintendents of training-schools that the term was too short, that a third year was necessary to complete the nurse's education. The third year in training prepares a nurse for general nursing more than the other two combined.

But why should a nurse finish her course when she has the same prestige as the graduate? She is employed by the same doctors, nurses the same patients, and very often gets the same pay. She tells her patient that she nurses for Dr. So-and-so, and that she is as good as any graduate nurse. The patient believes her, for the doctor says, "I can get you a nurse that will be just as good as a graduate nurse, and will cost you less." Perhaps she is as good as a graduate; she may be even better fitted to be a nurse than many a graduate, if she were trained, but, does her natural fitness for the work take the place of training?

Now, the doctor says, "But the non-graduate does not come into your field at all. We don't employ her for serious cases; we need cheap nurses for our patients who cannot afford to pay the price you ask, and she is just as capable of taking care of our lighter cases." Granted. We acknowledge there is a field for the cheap nurse; we know that every doctor employs them; we are glad they do, when necessary, and are often very glad to have them follow us on a case. But does that account for what a non-graduate recently said to a graduate: "Well, we don't need to worry about dull times when we are registered, because the doctors always call us first anyhow."

We have heard about the nurse being loyal to the doctor from our probation days. She is to be loyal to the doctor at all times. It is her duty. A nurse is charged thus, "Duties: first and foremost to the doctor; second, to your patient; third, to yourself." Has the doctor any duty toward the nurse? Is it his duty to employ a graduate when possible, or does his duty extend so far to the patient that he employ a non-graduate if it saves the patient's purse?

The non-graduate registered at the Bureau is entitled to the same privileges as the graduate, attends the same lectures (arranged by the graduates), has access to the library, and is brought before the laity as a money-saver. I call up for a nurse. "Do you wish a Class A or Class B nurse?" "What is the difference?" "Class A are graduates, and charge twenty dollars a week; Class B, non-graduates, and charge fifteen a week." "Well, Class B is all right; send me a Class B nurse."

Is it right to educate the non-graduate by lectures and books to take the place of the nurse who has had three years' experience in a hospital? The doctor after four years of hard study considers it necessary to have a year's hospital practice before entering his career. Nursing cannot be taught by theory alone; it needs more practice than theory, and the theory and practice go together. When the doctor can educate the non-graduate by means of books, lectures, and private supervision on cases to be "just as good" as the graduate, the need for training-schools is past.

Is it right to register them side by side? We know of no other bureau where it is done.

A Graduate Nurse.

REPORTS OF SOCIETIES

MINNESOTA ACADEMY OF MEDICINE

R. O. Beard, M. D., Secretary

Annual meeting, Wednesday evening, October 7, 1903, at the Hotel Ryan, St. Paul; Dr. J. Clark Stewart, president pro tem., in the chair.

Officers were elected as follows:

President, Dr. Wm. Davis, of St. Paul.

Vice-president, Dr. J. H. Dunn, of Minneapolis.

Secretary-treasurer, Dr. A. W. Dunning, of St. Paul.

Executive Committee, Drs. W. A. Jones, J. L. Rothrock, and R. O. Beard.

Governing Board, Drs. A. McLaren, Talbot Jones, C. G. Weston, J. T. Rogers, and J. W. Bell.

Dr. Arthur T. Mann, of Minneapolis, presented a thesis upon "Fractures of the Lower Jaw."

The discussion was opened by Dr. F. A. Dunsmoor, of Minneapolis. He said that the author's experience agreed with his own. The lack of benefit to be derived from support of the lower jaw he conceded. He approved the wiring of teeth if the patient is so fortunate as to possess them. Sometimes patients are not so fortunately endowed. The majority of such fractures are due to blows. The worst case he had seen was caused by the kick of a horse. He had attempted to wire the lone fragments together, and believed he had done more harm than good. Dressings were to be altogether tabooed. He called in question the practice of fastening the jaws together.

Dr. John T. Rogers, of St. Paul, related a case of fracture of the upper alveolus, the result of a blow from accident in a machine-shop. He had wired the fragments together, and kept the mouth shut, using silk-worm gut to fasten up the severed upper lip, and had had a perfect result. His experience in fractures of the lower jaw agreed with Dr. Dunsmoor's. He thought that any method of attaching the fragments by anchorage was preferable to any form of dressing or bandage. There is usually little mobility in such fractures. The idea of tying the teeth of the lower and upper jaws was certainly original and valuable, and adapted to certain cases.

Dr. J. Clark Stewart approved the device of wiring the teeth together in complicated fractures of the lower jaw. He related a case of six fractured points in one case, with double breaks of the condyles, double breaks of the body of the lower jaw, and separation of upper and lower alveolar plates. He discussed the method of treatment by wiring and support.

Dr. Mann, in closing the discussion, thanked the members for their interest. Simple fractures were easy for everybody, and the complicated ones were difficult for everybody. The method of fastening the jaws together has the merit of preserving correct articulation and maintaining the adjustment of fragments. Feeding of fluids is not difficult.

The Academy adjourned.

HENNEPIN COUNTY MEDICAL SOCIETY

F. A. KNIGHTS, M. D., SECRETARY

A stated meeting of the Hennepin County Medical Society was held at the Andrus building, on October 5th, Dr. J. W. Bell, President, in the chair, with about sixty members present.

Applications for membership were made by Dr. C. P. Aling, 2423 Central Ave., Rush '00; Dr. Clarence D. Whipple, 237 First Ave. So., U. of Minn., '03; Dr. Ellen C. Fullerton, 3041 Nicollet Ave., U. of Minn., '03, and Dr. Irving C. McDonald, 2201 Marshall St. N. E., U of Minn., '02. These applications were referred to the Board of Censors.

The special committee appointed June 1st, to whom was referred the request for indorsement of the "Red Cross Medical Association" reported by Dr. C. A. McCollum, chairman, that the committee did not think it wise for this society to endorse any private enterprise. On motion of Dr. J. H. Stuart this report was adopted.

Dr. W. A. Jones presented a resolution coming from the Medical Club as follows:

To the Charter Commission of Minneapolis,

Gentlemen:—

We, the Hennepin County Medical Society, believe that the best management of the City Hospital demands certain changes, and therefore we respectfully recommend to the Charter Commission:

1. That the Board of Corrections and Charities consist of five members, one member to be appointed each year for a term of five years.
2. That no person holding any other municipal office be a member of the Board.
3. That whenever a vacancy occurs in the Board from death, resignation or otherwise, said vacancy shall be filled by the mayor in the manner provided for above.

Dr. C. G. Weston moved the adoption of the resolution. The motion was seconded and after a short discussion was carried.

Dr. C. G. Weston presented the request of the Women's Medical Club for the use of the library-room on the third Wednesday evening of this month for a lecture to nurses by Dr. Hutchinson. The society was disposed to grant this request, but as it was informed that the Medical Club occupies the room regularly on the third Wednesday evening of each month, it was voted, on motion, that the executive committee be empowered to arrange for some other evening.

Dr. E. J. Brown read a very short paper on "Primary Ether Anesthesia."

Dr. L. W. Day asked to report the result of a canvass made by a committee appointed to secure funds to purchase new books for the library. The sum of $113.00 had been collected and books purchased therewith, and the committee wished for instruction from the society as to its future action. Dr. C. H. Hunter moved that the report be adopted, and the committee continued, the vacancy left by Dr. Newhart being filled by the president by appointment. This motion was carried.

Dr. Knut Hoegh presented a case of flat-foot, acquired by standing, and relieved by special appliance for supporting the arch of the foot.

Dr. H. A. Tomlinson, of St. Peter, presented a paper entitled "The Significance of Parenchymatous Change in the Kidneys and its Pathology." Dr. Wesbrook, Dr. Abbott, Dr. Barton, Dr. Cates, Dr. Nippert, Dr. Haggard, Dr. Rees, Dr. Sweetser, Dr. Thomas discussed the paper, and Dr. Tomlinson closed the discussion.

Dr. C. H. Bradley then presented a case of leukemia, with a short descriptive paper.

The society then adjourned.

MISCELLANY

THE CRUSADE AGAINST TUBERCULOSIS IN MINNEAPOLIS

REPORT OF COMMITTEE OF THE MEDICAL CLUB

In the spring of this year (1903) a crusade against tuberculosis was started by the Minneapolis Medical Club. A committee was appointed to whom was given the power to carry on the work as it saw best. This committee immediately got together, and organized a plan of campaign. The inadequate knowledge concerning the number of cases of tuberculosis in Minneapolis was to be replaced by definite morbid statistics to be obtained by a system of reporting cases by physicians. The reporting of cases of tuberculosis has prevailed in several cities of the east, not, however, without opposition on the part of the profession. To measure the opinion held by physicians in Minneapolis on this important phase of its work, it was deemed best to establish the method among a limited number, whence it could grow out into the profession at large. Thus the Medical Club members were asked to co-operate by filling blanks (a copy of which is subjoined), and aid in their distribution among physicians not members of the society. The vote was unanimous to do so. The work of distributing and filling blanks is now under way.

The committee have thought it wise to take charge of these blanks until a settled opinion of the reception of the idea can be obtained. If the plan is looked upon with favor and receives the proper endorsement it will feel justified with permission and the decision of the society to turn over the collecting and distributing of blanks into the hands of the proper public authorities. This of course will not be done unless the latter will fully agree to collect and circulate blanks under the same conditions as the committee has been working. The provisions are as follows: That there be in nowise any interference or intrusion on the patient or his premises on the part of the authorities unless specifically requested by the doctor who has had the kindness and good sense to send in the report, and that the information given be used only for statistical purposes and that it be open to any physician or any health board who may desire it for such a reference. To have developed and turned into its proper channel such a system,[*] would be one of the greatest pleasures of the committee and it would also feel that the fight was fairly on.

Secondly, it was adopted to organize an anti-tuberculosis society among the laymen, in order to awaken new interest, to disseminate accurate knowledge, to appeal to and to improve the civic mind in matter of tuberculosis hygiene, and to collect funds for the attack of the disease in its most pleasant environment—the poor. As yet little has been done in developing this idea. Preparatory work, such as lectures, investigations, and the concerted movement of organization takes time. Besides, slow action here means stability in the future. Much is expected of the winter along this line.

During the summer months the committee appealed to the Medical Faculty of the University of Minnesota for permission to organize a tuberculosis dispensary in connection with the "University Free Dispensary" situated at the "seven corners." Through a free dispensary for tuberculosis it was thought the disease could be most easily reached, and by using it as a bureau of education, prophylaxis and treatment, a gradual reduction of the number of cases amongst the poor would result. The dispensary was to be developed along the best patterns in Europe, having all the scientific virtues of the Berlin clinic and all the humanitarian tendencies of the one situated at Lille. The Faculty thought favorably of the scheme and appointed a committee of five made up of dispensary clinicians, to organize and carry out this plan. The Medical Club committee feel that their project was placed in most excellent hands, and wish all strength and success to its directors. A hearty co-operation of all medical men in sending ambulatory cases to this clinic will be of great advantage.

Much gratitude is due to the men who were willing and able to place this new but effective weapon in our hands in our fight against the disease.

It has been further planned by the committee to instigate a movement for a municipal hospital or sanatorium for consumptives. As this is but the culmination of all its endeavors and depends largely on the results of the other projects enumerated, little is being done. Time must first develop organization in the committee's methods, give success to some of its endeavors and increase the interest and faith in its work by the profession and laity.

In closing the committee wishes to thank Dr. Bracken of the State Board of Health for his hearty co-operation in the matter of issuing blanks. Dr. Bracken was instrumental in having the blanks used by the society for collecting information relative to cases of tuberculosis printed free of charge by the state. He has also indirectly offered the Free Tuberculosis Dispensary committee the use of an outdoor visitor (paid by a fund placed in his hands by some philanthropic persons), who will assist in developing the outdoor department of the dispensary.

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[*] It is only fair to mention here that at the time during the agitation and elaboration of this idea the local Board of Health independently of this movement has made an endeavor to collect statistics by offering free examination of sputa of all suspected cases of tuberculosis.

The committee makes an appeal to the profession for hearty endorsement. It has received encouragement at every turn, and feels that were its motives and objects thoroughly known the manifestations of help and co-operation will increase. For this reason the above statement is respectfully submitted.

S. Marx White,
Lester W. Day,
Henry L. Ulrich,
Chairman.

MINNESOTA STATE BOARD OF HEALTH
Voluntary Information Relating to a Case of Tuberculosis
Designed by and for the use of
The Minneapolis Medical Club

A. Patient: Date................
Name...... Age......... Sex......... Color.........
Nationality ....Married or single ....
Place of Residence.............. Occupation...........
Place of work........Probable source of infection......
Are there any consumptives among patient's associates? ....
History of case ....
What part of body was first affected?...............
Date of onset.......... Course of the disease..........
Has the case been examined bacteriologically?..........
If so, by whom?............ ....
Give date of bacteriological examination................
Give result ....
Treatment, past and present................Climatic, Sanatorial, Home, Drugs.
Does the patient sleep alone?.........................
Is the patient isolated?..........If so, when did the isolation begin? ....
Are steps taken to disinfect sputum, excreta, etc?....
................If so, describe method of disinfection ....
B. Other Members of the Household:
Have there been any previous known cases of tuberculosis in the family? ....
If so, give number of cases ....
Give number of persons in family at present..........
Give condition as to health of each member of family at present time ....
Give ages of each member of family at present time..
....
C. House: Describe location (high or low ground.)
Is there a cellar? ....If so, describe condition..
....
Give material of house (wood, stone or brick).........
Describe finish of walls in room occupied by patient ....
Give approximate size of house............No. of floors
.....................No. of rooms.................
Give plan for each floor on back of this sheet; indicate room or rooms occupied by patient.
When was the house built?..........................
Present condition ....
Has the house been disinfected at any time?..........
Have there been previous known cases of tuberculosis in this house? ....
Is this a rented house or owned by the residents?....
Name of Reporter............................
Address ....

REVERSE SIDE

Give full history of case previous to onset of disease.
Give full clinical history of case.
Give plan of house, etc.

BOOK NOTICES

A Treatise on Diseases of the Rectum, Anus, and Sigmoid Flexure. By Joseph M. Matthews, M. D., LL. D., President of the Ames Medical Association, 1898; Professor of Surgery and Clinical Lecturer on Diseases of the Rectum, Hospital College of Medicine; Late President of the Mississippi Valley Medical Association; President Louisville Clinical Society; President of the Louisville Surgical Society; etc. Third Edition, Revised. New York: D. Appleton & Company.

That this work has already passed to its third edition is sufficient proof of its worth and appreciation by the medical profession. After two chapters on Examination and Anatomy the author takes up the important subject of constipation, thoroughly discussing causes both anatomical and dietetic. He condemns the use of cathartics.

Hemorrhoids are fully considered and treatment given in detail. All methods are mentioned; some for condemnation and a few are recommended. Fistula in ano is thoroughly dealt with. The chapter on Cancer has been rewritten and he gives small credit to the laboratory diagnosis depending entirely on the clinical features.

The book is too well known to need a recommendation, but the way Dr. Matthews writes of his work and cites cases convinces one that he is writing from practical experience, and knows whereof he speaks. His easy, conversational style makes the book excellent reading, and it is especially adapted to practitioners who desire full knowledge on any subject. The book is well printed on good paper, fully illustrated, and well bound.

A Text-Book of Obstetrics. By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania. Handsome octavo, 900 pages, with 746 illustrations, 39 of them in colors. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net. Philadelphia, New York, London: W. B. Saunders & Company, 1903.

In revising his work for this edition, the author has spared no pains to make the book reflect the latest knowledge on the subject. He has even described and illustrated the method of using the "Neumann-Ehrenfest Kliseometer." His perfect familiarity and extensive experience with diseases of women is shown in the careful and minute manner in which he describes the various methods of treatment. As most of the diseases of women are the consequences or complications of childbirth, their preventive treatment at least is in the hands of the obstetrician, and the physician in general practice must be equally well informed in both branches of gynecology. The specialist in obstetrics must be an expert in the surgical treatment of all diseases of women. Even a specialist who confines his work entirely to this treatment, must at least have served a long apprenticeship in practical obstetrics, and have mastered its science to be adequately prepared for his work. From the glimpse we have obtained of Dr. Hirst's knowledge of diseases of women, we wait anxiously for his new work on that subject. In this present work every page has been altered and bettered in some way. More attention has been given than in the previous editions to the diseases of the genital organs associated with or following childbirth, and this we think, is an excellent improvement. Many of the old illustrations have been replaced by better ones, and there have been added besides a number entirely new. The work treats the subject from a clinical standpoint, the author ever keeping in mind that the aim of all medical literature is to cure.

A TEXT-BOOK OF OBSTETRICS. By J. Clarence Webster, M. D. (Edin.), F. R. C. P. E., F. R. S. E., Professor of Obstetrics and Gynecology, Rush Medical College in Affiliation with the University of Chicago; Obstetrician and Gynecologist to the Presbyterian Hospital, Chicago; Obstetrician to the Chicago Lying-in-Hospital and Dispensary, Chicago, etc., etc. Handsome octavo volume of 767 pages, with 383 illustrations, 23 in colors. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net. Philadelphia, New York, London: W. B. Saunders & Company, 1903.

This work has been written for the student of obstetrics, as well as for the active practitioner. The anatomic changes accompanying pregnancy, labor, and the puerperium are described more fully and lucidly than in any other text-book we have seen. The exposition of these sections is based mainly upon studies of frozen specimens, in which department the author has had a larger experience than any other worker. Unusual consideration is given to embryologic and physiologic data of importance in their relation to obstetrics. The practical aspects of the subject are presened in such a manner as to be of direct assistance to the clinician. Diagnosis and treatment are presented with rare exactitude and clearness, particular consideration being given to those methods that have proved most successful by experience. The illustrative feature of the work is far above the average. Evidently great care was taken in the selection of the illustrations, aiming to meet the varied requirements of both the undergraduate and the practicing physician. Many of the illustrations are entirely original, having been made especially for this work, and never having appeared in any other text-book. The work throughout expresses the most advanced thought of the day, and the statements can be relied upon as accurate. We heartily recommend Dr. Webster's book to student and practitioner.

NEWS ITEMS

Dr. O. J. Brown, of St. Cloud, has moved to Fergus Falls.

Dr. Leslie G. Hill, of Chicago, has located in Watertown, S. D.

Dr. O. M. Haugan, of Fergus Falls, is doing hospital work in Chicago.

Dr. H. B. Scofield, of Scotland, S. D., will move to Parkston in the same state.

Dr. C. C. Walker, who formerly practiced in Lamberton, has located in Chatfield.

Park River, N. D., is to have a hospital. It will be conducted by Dr. Halldorsson.

Dr. W. K. Beck, of Hanley Falls, will spend the winter in hospital work at Eveleth.

Dr. Andrew Ekern, of Grand Forks, N. D., makes his daily rounds in a $2,500 automobile.

Dr. J. W. Lenfest, a graduate of the State University, class of '03, has located at Bowbells, N. D.

Dr. K. B. Waite, who has been temporarily located at Mitchell, S. D., will remain in practice in that city.

Reports come from Chicago of the slow but satisfactory improvement of Dr. I. N. Wear, of Fargo, N. D.

Dr. J. DeM. Guthrie, of Luverne, has sold his practice, and will spend several months in study in Minneapolis.

Dr. T. F. Bevans, of St. Paul, has located in Morris. Dr. Bevans graduated this year from the State University.

Dr. Charles Swenson, Hamline, '03, who is practicing at Braham, was married last month to Miss Zelma E. Lee.

Dr. Albert S. Amerman, of Rapid City, S. D., died last month. Dr. Amerman was a pioneer in the Black Hills country.

Dr. S. C. Johnson, of Hudson, Wis., died on Oct. 15. We speak further of Dr. Johnson in an editorial in this issue.

Dr. Anders E. Johnson, State University, class of '03, has located at Madison, and founded a partnership with Dr. Tammel.

Dr. C. L. Chappelle, of the State Hospital at Rochester, was married last month to Miss Grace L. Guernsey, of Clintonville, Wis.

Dr. J. Farrow has moved from Cavalier to Hilliard, N. D. His practice will be taken by Dr. P. M. Walker, of St. Thomas.

Dr. H. J. Conner, of Superior, Wis., is trying to buy the Euclid hotel, a monument of boom days, for a hospital and sanitarium.

Red Wing is to have a new hospital, to be called St. John's. J. H. Schacht is president of the company incorporated to build it.

Dr. J. H. Heimark, Hamline, '03, now practicing at Cyrus, was married last month to Miss Cordelia Thompson, of Swede Grove.

Dr. Paul H. Burton, a graduate of Hamline, who has been practicing at Hallock, has gone into partnership with Dr. McConnell, of Fargo, N. D.

Dr. O. M. Justice, of Elysian, has sold his practice to Dr. C. W. Russell, of this city, who graduated from the State University in June. Dr. Justice will locate in Minneapolis.

Dr. Josephine Lindstrom, a recent graduate of the State University, has formed a partnership with Dr. A. A. Westeen, also a graduate of the University, of Grand Forks, N. D.

The sanitarium of Alexandria, which has had a struggle for existence, has been taken up by the physicians of the city, and its name changed to St. Luke's Hospital. It will be well managed, and will succeed.

The Yankton (S. D.) District Medical Society held its first meeting after organization last month. The following officers were elected: President, Dr. W. E. Moore, Tyndall; secretary and treasurer, Dr. J. L. Stewart, Irene.

Dr. E. W. Spottswood and Miss Lenita J. Bonner, of Missoula, Montana, were married last month. Dr. Spottswood is a graduate of the State University, and has long been connected with the N. P. Hospital of that city.

The Brown and Redwood County Medical Societies have been merged into one society, with the following officers: President, Dr. G. B. Weiser, of New Ulm; vice-president, Dr. H. E. Schlagel, of Redwood Falls; secretary and treasurer, Dr. J. H. Vogel, of New Ulm.

The physicians of Washburn, Sawyer, and Burnett counties met at Spooner, Wis., last month, and organized a medical society, with the following officers: President, Dr. J. B. Trowbridge, Hayward; vice-president, Dr. J. P. Cox, Spooner; secretary and treasurer, Dr. E. R. Herring.

The physicians of Bismarck, N. D., and vicinity organized a district medical society last month. The following were elected officers of the society: President, Dr. F. R. Smyth, Bismarck; vice-president, Dr. G. E. Chamberlain, Bismarck; secretary and treasurer, Dr. F. B. Strauss, Glen Ullin.

Dr. W. C. Foster, a graduate of the State University, class of '02, who has been with the U. S. troops in the Philippines, has been appointed a medical examiner in the service.

The citizens of Long Prairie are taking steps toward the establishment of a hospital. A. S. Strauss is chairman of the Board of Trade committee that has charge of affairs.

At the quarterly examination of North Dakota, held last month, the following were granted certificates: Cornelius O. Anderson, Willow City; J. W. Lenfest, Bowbells; William H. Porter, Walhalla; L. S. Eastman, Mannhaven; Charles B. Wright, Grand Forks; D. E. Rogers, Galesburg; W. E. Longstreth, Kensal; E. C. Stusman, Westhope; C. S. Marsden, Hoople; M. L. Goldberg, Twin Valley, Minn.; Gilbert S. Todd, Medina; Clarence S. Trimble, Richburg; D. H. Bell, Kenmare; Camiel Tufte, Pelican Rapids, Minn.

POSITION WANTED IN PHYSICIAN'S OFFICE

A young woman of good address, with excellent memory for names and faces, desires a position in a physician's office. Can use the typewriter, but cannot take dictation. Address O, care of LANCET.

INTEREST IN HOSPITAL FOR SALE

Being obliged to go to a milder climate, I wish to sell my business. The hospital is located in a N. D. village of 1,000 inhabitants, with a large contributary territory and two railroads. Myself and partner are the only physicians in the village, and we have the railroad, county, and village work. The hospital has 20 beds, and cost $16,000. I own $3,000 of the stock and one-half interest in the furniture and fixtures. I offer all this with by 5-room house which is steam-heated, and has hot and cold water, bath, etc., for actual cost, or about $8,000. The practice of the firm and hospital business amount to $20,000. The purchaser must be a surgeon of some experience. Address S, care of LANCET.

NORTHWESTERN LANCET

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EXAMINATION QUESTIONS ASKED CANDIDATES FOR LICENSE TO PRACTICE MEDICINE AT THE 1903 MIDSUMMER EXAMINATION IN MINNESOTA, NORTH DAKOTA, SOUTH DAKOTA, AND WASHINGTON

MINNESOTA

ANATOMY

Adele S. Hutchison, M. D., Minneapolis

1. Name the bones of the face.

2. Describe the scapula.

3. Describe the different kinds of joints, giving an example of each.

4. Describe the psoas magnus muscle, giving origin and insertion.

5. Give the rise, course and general distribution of the radial artery.

6. Give the venous supply of the intestines.

7. Describe the fourth ventricle.

8. Describe the diaphragm.

9. Describe the trachea.

10. Describe the kidney.

PHYSIOLOGY

A. G. Stoddard, M. D., Fairfax

1. Describe hemoglobin.

2. In what condition do fats reach the blood, and speaking generally, in what does their nutritive value consist?

3. Can any of the body-fat be attributed to proteids? If so by what process?

4. Name the most important of all the nitrogenous body excreta, amount excreted in 24 hours, and through what channels.

5. Give briefly some salient facts relating to the physiology and mechanics of vision.

6. The same with speech.

7. Give some account of the physiology of reproduction.

8. Trace the course of a particle of blood through a normal heart, both before and after birth.

9. What is the nature and origin of fibrin-ferment (thrombin)?

10. Give structure and function of spleen.

HISTOLOGY AND PATHOLOGY

C. J. Ringnell, M. D., Minneapolis

1. Give histological structure of spleen.

2. Describe the various forms of leucocytes in the normal blood.

3. Where are the glands of Brunner?

4. Name and describe the different varieties of muscle fiber.

5. Describe Peyer's patches.

6. Describe systematically the changes (macroscopic and microscopic) which occur in the lungs in lobar pneumonia.

7. (a) What is the normal leucocyte count in adults? (b) In acute nephritis which varieties of casts are seen?

8. What features of a tumor render it malignant? Name the malignant tumors.

9. What is the pathological condition of the blood in chlorosis; pernicious anemia; and lymphatic leukemia?

10. Define thrombosis; embolism; infarction; leucoytosis; atelectasis.

CHEMISTRY, URINALYSIS AND TOXICOLOGY.

A. B. Cole, M. D., Fergus Falls

1. Define chemistry, base, acid and salt.

2. Give symptoms and treatment of aconite poisoning.

3. Give chemical tests for bile pigments and pus in the urine.

4. Name three of the most important abnormal constituents of the urine and give tests.

5. What are the physical properties of potassium iodide?

MATERIA MEDICA AND THERAPEUTICS

Wm. Davis, M. D., St. Paul

1. Name the three best emetics and the dose of each.

2. Prescribe an intestinal antiseptic for an adult with typhoid fever.

3. What drug administered by mouth will best render alkaline urine acid? Give dosage.

4. What alkaloids of opium are official?

5. Give the formula for a solution for hypodermatoclysis.

6. Write a prescription for "mixed treatment" in a case of syphilis.

7. Give the adult dose of acetanilid; salicylic acid; apomorphia (hypodermatically); infusion of digitalis; liquor potassii arsenitis.

8. Write out the formula for a nutrient enema.

9. What is wrong with this prescription?

℞	Potassii permanganatis,	grs. xx
	Glycerini,	oz. j
	Aquæ, q. s. ad	oz. iv.
	Micse et Solve.	
	Sig. For external use.	

10. What is the therapeutic use of thyroid extract?

PRACTICE

E. O. Giere, M. D., Madison

1. Define uremia, hemoptysis, emphysema and angina pectoris.

2. Briefly described the gross pathology of acute lobar pneumonia.

3. Give causes, symptoms and prognosis of acute endocarditis, and how would you diagnose from acute pericarditis?

4. How would you diagnose and manage a case of apoplexy?

5. Give causes and classification of epilepsy and how would you treat an ordinary case?

6. Give symptoms of acute appendicitis and how would you treat a case non-surgically?

7. Give prognosis and treatment of diabetes mellitus.

8. Define acute articular rheumatism and give duration, complications and treatment.

9. Give the diagnostic symptoms of leucocythemia.

10. Give causes and symptoms of acute parenchymatous nephritis.

SURGERY

Charles M. Cannon, M. D., St. Anthony Park

1. Give operation for an ordinary case of gall stones.

2. How would you treat a compound fracture of tibia and fibula?

3. Give diagnosis and treatment for stricture of male urethra.

4. Diagnosis and treatment of empyema.

5. Describe treatment of fracture of skull attended by coma.

6. Diagnosis and treatment of moveable kidney.

7. Give latest operation for varicocele.

8. What is Colles' fracture and what the treatment?

9. Give treatment of osteo-sarcoma occurring in shaft of tibia.

10. Give treatment for prevention and relief of shock following or during a major surgical operation.

OBSTETRICS

W. A. Beach, M. D., Mankato

1. What is podalic version? When used?

2. What are the different positions of the vertex?

3. At what age can a viable child be borne?

4. What are the forceps? Descripe their application at the brim and the outlet.

5. What conditions would cause you to advise the induction of premature labor?

6. What special danger is there in twin pregnancies at time of labor?

7. Of what is the placenta formed?

8. What is extra-uterine pregnancy? How determined?

9. What is "phlegmasia alba dolens?" Cause?

10. How would you prevent "ophthalmia neonatorum?"

DISEASES OF WOMEN

A. F. Groves, M. D., Brainerd

1. Describe fully how you would conduct a gynecology examination.

2. Uterine carcinoma. Give signs and symptoms and what parts of uterus primarily affected, and give treatment.

3. Describe a vaginal hysterectomy.

4. Give the differential diagnosis between pyosalpinx and appendicitis.

5. Give differential diagnosis of serous cyst of broad ligament and ovarian cyst—third stage.

DISEASES OF CHILDREN

A. F. GROVES, M. D., BRAINERD

1. Icterus neonatorum. Causes, symptoms, prognosis and treatment.

2. Infantile and juvenile myxedema (sporadic cretinism), causes, symptoms, prognosis and treatment.

3. Scarlet fever, etiology, symptomatology, prognosis and treatment. Give principal complications and dangers of each.

4. Nocturnal enuresis, define and give causes and treatment.

5. Acute follicular tonsillitis, etiology, symptomatology, prognosis and treatment.

EYE AND EAR

A. B. COLE, M. D., FERGUS FALLS

1. Define Descemet's membrane, leucoma, staphyloma, scotoma and diplopia.

2. Give etiology, symptoms and treatment of acute iritis.

3. When should mydriatics be employed?

4. How can optic nerve atrophy be distinguished from glaucomatous excavation by ophthalmoscopic appearances?

5. How would you treat a frost-bite of the auricle?

MEDICAL JURISPRUDENCE

WM. DAVIS, M. D., ST. PAUL

1. Can human blood be positively distinguished from the blood of other animals?

2. To what extent are communications made by patient to physician privileged in the eyes of the law?

3. Mention the distinguishing characteristics of the fetus at the end of the fourth month of gestation.

4. What are the post-mortem appearances of death from suffocation?

5. What degree of intercourse is necessary to constitute rape?

HOMEOPATHIC MATERIA MEDICA

W. A. BEACH, M. D.

1. Differentiate bell., stram., and hyos. in delirium.

2. Give most characteristic symptoms of lachesis.

3. Give symptoms calling for aconite in fevers.

4. Give symptoms of nux.

5. What is a polychrest? Name five.

6. Give respiratory symptoms of phosphorus.

7. What symptoms of sulphur point to it as a remedy for skin troubles?

8. Differentiate between rhus and bry. in rheumatism.

9. Give two characteristic symptoms of the following remedies: China; Kali. bichl.; Argent. Nit.; Chel.; Dig.; Puls.; Ign.; Calc. Carb.; Graph.; Spig.

ECLECTIC MATERIA MEDICA

CHARLES M. CANNON, M. D., ST. ANTHONY PARK

1. Give indications for baptesia, echinacea, soda bicarbonate, kali-chlorate, calomel and apocynum.

2. Name two or three important hypnotics and give indications for same.

3. In diarrhea of children, when are the following remedies indicated namely: ipecac, geranium, cuprum arsenite and opium?

4. What is the action of apomorphia? Give dose.

5. Give adult dose of acetanilid, quinia sulph., salol, codeine sulph. and aromatic sulphuric acid.

6. Give briefly the mode of preparation of diphtheria anti-toxin, its dose, and how and when given.

7. Write prescription for a throat gargle containing tincture ferri and pot. chlorate and glycerine. State how frequently it should be used.

8. Name five antiseptics, which may be used for cleansing wounds.

9. Give dose and indications for cocaine hydrochlorate.

10. Give antidote for poisoning by opium, belladonna and carbolic acid.

NORTH DAKOTA

ANATOMY

F. R. Smyth, M. D., Bismarck

Answer any five questions.

1. Describe the wrist joint.

2. Describe the internal and external abdominal rings.

3. Describe the blood supply of the uterus.

4. Outline the location of the vermiform appendix on the wall of the abdomen, and state what structures have to be divided to reach it.

5. Describe the solar plexus.

6. Give the different divisions of the alimentary canal, from the stomach to the rectum, with a description of each.

7. Describe the superficial veins of the forearm.

8. Describe the kidneys.

9. Describe the deep and superficial inguinal lymphatic glands.

10. Describe the femur.

PHYSIOLOGY

F. R. Smyth, M. D., Bismarck

Answer any five questions.

1. What is the function of the pancreatic secretion?

2. How is the normal temperature of the body produced and how regulated?

3. Describe the action of the stomach on different foods.

4. Why is general dropsy a common sequel of valvular heart disease?

5. Describe the function of the kidneys.

6. What is meant by proteids, fats, carbohydrates and salts, in a diet list?

7. Where is the sense of taste located and how is it excited?

8. What changes take place in the blood during respiration?

9. What gives the color to the skin?

10. What is the function of the vaso-motor nervous system?

PATHOLOGY

J. P. Aylen, M. D., Sheldon

Answer any five questions.

1. Give the gross and microscopic appearance of an epithelioma of the lip.

2. (a) What constitutes malignancy in tumors? (b) Mention the neoplasms.

3. What pathologic changes take place in lung tissue in lobar pneumonia?

4. Describe either by sphygmographic tracings or in words, three principal pulse varieties.

5. (a) Describe the process of granulation. (b) Define a slough.

6. What are cysts? How are cysts formed? Give the varieties of cysts.

7. Enumerate the diagnostic sounds in a diseased respiratory apparatus and describe any one of the sounds mentioned.

8. Describe the structural changes in arteriosclerosis.

CHEMISTRY AND TOXICOLOGY

H. J. Rowe, M. D., Casselton

1. What is a poison, and what is toxicology?

2. Describe and treat a case of opium poisoning.

3. Give antidote for corrosive sublimate, atropin, acetate of lead and arsenic.

4. Give the differential diagnosis between extreme alcoholism, opium poisoning and apoplexy.

5. With what might strychnine poisoning be confounded?

6. Define an acid, base and salt.

7. What is chemical affinity? Name the halogens.

8. How many kinds of oils? Give examples of each.

9. What is specific gravity? Give two tests for albumen.

10. Define putrefaction and decomposition. Give the chemistry of respiration showing what is inhaled and what is exhaled.

MATERIA MEDICA.

F. J. Campbell, M. D., Fargo

1. Give dosage of apomorphia and indication of its use.

2. Give the officinal name, dose and composition of paregoric.

3. How do fluid extracts differ from tinctures?

4. Give dosage and physiological action of pilocarpine and tincture of aconite.

5. Write a prescription in both apothecary's and metric system for acute inflammatory rheumatism.

PRACTICE OF MEDICINE

J. P. Aylen, M. D., Sheldon

Answer any seven questions.

1. (a) In what ways may auto-infection be produced? (b) Give your idea of auto-infection as a factor in the etiology of disease, with examples.

2. How does the cause of typhoid fever principally gain entrance to the body? Outline the prophylaxis.

3. Describe the treatment of cerebrospinal meningitis.

4. What treatment would you recommend for diphtheritic paralysis? What is the prognosis?

5. Give the symptoms and physical signs of empyema.

6. Give the causes and effects of obstruction of the ductus communis choledochus.

7. Describe the treatment of cholera infantum.

8. How should nephritis complicating or following scarlet fever be treated?

9. Differentiate between the hydrops caused by disease of the kidneys and that caused by disease of the liver.

10. Give a description of a typical case of epilepsy.

SURGERY

H. M. Wheeler, M. D., Grand Forks

1. Describe Colles' fracture. How is it produced? Give symptoms and treatment.

2. Give symptoms and treatment of hydrocele. Diagnose it from scrotal hernia.

3. Describe the surgical treatment of empyema.

4. What symptoms are caused by calculi in urinary bladder? Describe briefly operation for removal.

5. Diagnose between chancre and chancroid. Give treatment of each.

OBSTETRICS

H. M. Wheeler, M. D., Grand Forks.

1. Give symptoms and treatment of post-partum hemorrhage.

2. Give the causes of abortion and describe the treatment in (a) threatened (b) inevitable.

3. Give the diagnosis, prognosis and treatment of placenta previa.

4. Give the diagnosis, prognosis and treatment of extra-uterine gestation.

5. Give the indications for the induction of premature labor and state the method of procedure.

DISEASES OF WOMEN AND CHILDREN

S. W. Rutledge, M. D.

1. Define salpingitis and give diagnosis and treatment.

2. Give same for pyosalpinx.

3. Give symptoms of caruncle of the urethra and treatment.

4. Give principal causes and forms of leucorrhea and give treatment.

5. What are the varieties of dysmenorrhea and treatment of each?

6. Name, define and give treatment of infantile stomatitis.

7. Give two or more formulæ for artificial feeding of infants.

8. What are some of the principal causes of infantile convulsions?

9. Give diagnosis and treatment of enterocolitis.

10. Give differential diagnosis of meningitis and tubercular meningitis.

EYE AND EAR

W. F. Hobart, M. D., Denhoff

1. Define amblyopia, emmetropia, myosis, nystagmus, aphakia, madarosis, anchilops and blepharo-adenitis.

2. Give causes, symptoms and treatment of blepharo, adenitis.

3. Give the same of keratitis phlyctenularis.

4. Causes, symptoms, diagnosis and treatment of iritis plastica.

5. Causes, symptoms, diagnosis, prognosis and treatment of retinitis, albuminurica.

6. Give symptoms of impacted cerumen and the best methods of its removal.

7. Give symptoms, prognosis and treatment of chronic suppurative inflammation of the middle ear.

8. Give two or three methods of testing the power of hearing.

9. Differentiate between deafness of the middle ear, and that due to other causes.

10. Describe Meniere's disease.

MENTAL AND NERVOUS

I. N. Wear, M. D., Fargo

1. Define hydrocephalus, hemiplegia, pachymeningitis, apoplexy, neurasthenia.

2. Give differential diagnosis and treatment of neuritis.

3. Give etiology, symptoms and treatment of locomotor ataxia.

4. Give symptoms, pathology, prognosis and treatment of cerebrospinal meningitis.

5. Give etiology, symptoms, pathology, diagnosis and prognosis of acute anterior poliomyletis, and describe the deformities most commonly resulting.

PREVENTIVE MEDICINE

F. J. Campbell, M. D. Fargo

1. What is the incubation period of
    1. Smallpox.
    2. Diphtheria.
    3. Scarlet fever.
    4. Measles.

2. Give your method of disinfection after variola.

3. Define
    1. Germicide.
    2. Disinfectant.
    3. Antiseptic.

4. Discuss the value of wells 20 to 60 feet deep as sources of drinking water supply.

5. What is the best method of obtaining a pure city water supply in a city situated on the Red River of the North.

MEDICAL JURISPRUDENCE

Wm. R. Dupuy, M. D., Grafton

1. What is medical jurisprudence?

2. What does the law require of attending physicians in the case of deaths and births with reference to vital statistics; and what is the penalty for failure to comply with the law?

3. Can a physician or surgeon, without the consent of his patient, be required to testify as to any information acquired in attending his patient, which was necessary to enable him to intelligently prescribe or act for the patient?

4. Enumerate the signs of pregnancy in its early stages.

5. Are there any peculiar sensations attending copulation that will enable a woman to determine with certainty when conception takes places?

6. When is a physician justified in causing a miscarriage?

7. Is it possible to determine with certainty whether blood stains are caused by human, as distinguished from animal blood?

8. In a murder trial a post-mortem made three weeks after death disclosed the presence of arsenic in the spleen, liver, and that portion of the peritoneum posterior to the stomach. Was it possible to determine whether the arsenic was introduced before or after death? In order words, can there be a post-mortem absorption of poison into the viscera?

9. What degree of care and skill is required of a physician or surgeon in the practice of his profession?

SOUTH DAKOTA

ANATOMY

J. L. Foxton, M. D., Huron

1. Draw a diagram of the hand, showing the relation of all the bones, and the names of each.

2. Describe the seventh cervical vertebra.

3. Describe the elbow-joint, and name the bones forming it.

4. Give origin and insertion of (a) supinator longus, (b) pronator radii teres, (c) pronator quadratus muscles.

5. Describe Scarpa's triangle, and state what structures are found therein, and their relative positions.

6. Name the regions of the abdomen, and what viscera are contained in the right hypochondriac region.

7. Describe the arch of the aorta, and mention its branches, with location of each.

8. Give origin and distribution of (a) the sciatic nerve, (b) the pneumogastric nerve.

9. Describe (a) the parotid gland, (b) the lachrymal gland.

10. Give nerve and arterial supply of the stomach.

PHYSIOLOGY

H. M. Finnerud, M. D., Watertown

1. Trace circulation through lower extremities, beginning at aortic valve.

2. Name the constituents and describe the functions of the gastric juices.

3. Describe the process of starch digestion.

4. Give source and functions of the salivary secretions.

5. Describe normal urine.

6. Describe functions of the liver.

7. Give normal pulse, respiration and temperature in a man about 30 years old.

8. Name the products of elimination.

9. Define secretion, and name some of its products.

10. In what does human and cow's milk differ?

THERAPEUTICS, PATHOLOGY AND REGULAR PRACTICE

S. Olney, M. D., Sioux Falls

1. Mention the therapeutic uses of water, calomel, opium, digitalis and chloride of sodium.

2. What symptoms and signs are produced by toxic doses of atropine?

3. What is fever?

4. What is the range of temperature in disease?

5. What is hyperpyrexia?

6. Name the various degenerations and give short description of each.

7. Tell briefly what you know of gangrene —its varieties and causes.

8. Define anemia and give some of the kinds and causes.

9. Define .... and give causes, clinical history, diagnosis, prognosis and treatment.

BACTERIOLOGY

J. W. Freeman, M. D., Lead

1. Give method of making a smear of diphtheria, and name the characteristics of the bacillus.

2. How does the Gram method of staining effect bacillus diphtheriæ, bacillus tuberculosis, streptococcus pyogenus, gonococcus, typhoid bacillus?

3. In a slide or smear of urethritis, what would be the difference between gonococcus and other bacteria? Give the method of staining the same.

4. Describe the process of staining a smear for tubercle bacillus, and the appearance of the same under the microscope.

5. How may typhoid fever be determined bacteriologically, and explain the process.

CHEMISTRY

A. A. Cotton, M. D., Vermillion

1. What are elements?

2. What is a hydro-carbon? Name one.

3. Describe a method of estimating the amount of urea excreted in twenty-four hours.

4. State the difference between calomel and corrosive sublimate.

5. Give chemical test for presence of pus in the urine.

6. How would you test for sugar and albumen in the urine?

7. Give the chemical name and formula of oil of vitriol, blue vitriol, copperas, sugar of lead, and epsom salts.

8. What is the difference between a sulphite and a sulphate?

9. How would you prove the presence of Hg. in solution?

10. What is litmus? For what is it used?

SURGERY

J. W. Freeman, M. D., Lead

1. Prepare yourself and patient for a major operation.

2. Describe surgical shock, and treatment of same.

3. Differential diagnosis of hydrocele, and scrotal hernia.

4. Describe a typical resection and atypical resection. Example—knee-joint.

5. What distinguishes tubercular from other inflammation of bones?

6. In treating a fracture of long bone in the middle third, describe in detail how you would apply splints; as example, take tibia and fibula.

7. Describe manipulation of the leg in a dislocation of the head of the femur, onto dorsum ilii, and subglenoid dislocation of shoulder.

8. Give the different varieties of congenital talipes, and the position of the foot in each.

9. What is fistula of the anus, and how is it formed?

10. Give description of the formation and subsequent history of a bone callus.

OBSTETRICS

H. E. McNutt, M. D., Aberdeen

1. Name and describe the female organs of

generation, giving size, relative position, blood supply and functions.

2. Name the various presentations.

3. Define the three stages of labor, and give the dangers in each.

4. When and for what purposes would you use ergot, and what are its contra-indications? Also chloroform.

5. Give causes, symptoms and treatment of post-partum hemorrhages.

6. What antiseptic precautions do you use and require before, during and after labor? Describe fully.

7. Define placenta previa. Give diagnosis, dangers to both mother and child, and treatment.

8. Give the best known causes of eclampsia. Describe the convulsion. Give dangers and treatment in a case occurring just before or during labor.

9. Describe the forceps, their use and manner of application.

10. Describe mastitis after labor, and give treatment.

DISEASES OF WOMEN

J. L. Foxton, M. D., Huron

1. Define (a) metrorrhagia, (b) menorrhagia, (c) amenorrhea, (d) dysmenorrhea, (e) metritis, (f) endometritis.

2. Differentiate between salpingitis and pyosalpinx.

3. Give principal causes of leucorrhea.

4. Give early symptoms of cancer of uterus.

5. Give differential diagnosis of (a) fibroid, pregnancy and menopause. (b) Disease of the right uterine appendage from appendicitis.

6. Describe the broad ligament, (b) the round ligament, (c) Douglas cul-de-sac.

EYE AND EAR

H. M. Finnerud, M. D., Watertown

1. Diagnose and treat a case of catarrhal conjunctivitis.

2. Give differential diagnosis, glaucoma and iritis.

3. Diagnose and treat a case of blepharitis.

4. Give causes, symptoms and treatment of acute suppurative catarrhal inflammation of the middle ear.

5. Give etiology and treatment of suppurative inflammation of the mastoid cells.

JURISPRUDENCE

H. E. McNutt, M. D., Aberdeen

1. Describe rigor mortis, giving cause, time and duration.

2. How would you determine if an infant, dead, had been born alive, and if it had reached maturity?

3. Describe the direction of a bullet entering and leaving the body, and not deflected by bone, determined by the appearance of the wounds.

4. If the body of an adult male is found and you are officially summoned to ascertain the cause of death, describe your examination.

5. Define mania, monomania, dipsomania, kleptomania, erotomania, amentia, dementia.

HOMEOPATHIC THERAPEUTICS AND PRACTICE

A. A. Cotton, M. D., Vermillion

1. Differentiate between measles and scarlet fever. Name two remedies used in treatment of each, giving indications for same.

2. Name two important remedies in diphtheria and give indications for each. (Exclude anti-toxin.)

3. Name two prominent remedies in treatment of dysentery and give indications for their use.

4. What would be your treatment for infantile colic, naming remedies with indications.

5. Describe a clinical case fully in which you would prescribe veratrum album.

6. Give indications for and name three prominent remedies in the treatment of chronic constipation.

7. Describe the pathological conditions in the different stages of pneumonia. Name two remedies you would be most likely to prescribe in each stage and give indications for each.

8. Outline your treatment of inflammatory rheumatism. Give indications for two of the most important remedies used.

9. Compare belladonna and apis in erysipelas.

10. Differentiate between pericarditis and endocarditis.

ECLECTIC MATERIA MEDICA, THERAPEUTICS AND PRACTICE

H. S. Graves, M. D., Hurley

1. What do you understand by the term eclectic?

2. Name some of the leading indications for tr. aconite, and give dose. Same for tr. belladonna. Same for tr. gelsemium.

3. In what class of diseases would you give echinacea, and doses. Same of potassium iodide.

4. Write a prescription containing a reliable diuretic.

5. Name two good emetics and dose of each.

6. Name three good heart stimulants, and dose of each.

7. Give the leading symptoms you would expect in a case of typhoid fever, and the treatment.

8. Give the leading symptoms in lobar pneumonia, and the treatment.

9. Give symptoms of strychnine poisoning, and treatment.

10. Give differential diagnosis between a boil, a felon and a carbuncle.

WASHINGTON

ANATOMY

W. C. Cox, M. D., Everett

1. Name the ligaments of the knee-joint.

2. Describe the elbow-joint.

3. Enumerate the various kinds of articulations in the body and give examples of each.

4. Give the origin, course and general distribution of the great sciatic nerve.

5. What are the branches of brachial artery?

6. Outline the position of the normal heart and name the point at which the apex beat will be found.

7. What bones make up the pelvis? Give their articulation.

8. Name the four principal parts of the brain.

9. Name and locate the salivary glands. Give nerve supply of parotid.

10. What muscles flex the fingers?

PHYSIOLOGY

F. H. Coe, M. D., Seattle

1. The blood. (a) Corpuscles; function. (b) Describe the communication between the contents of the blood vessels and the extra vascular tissues. (c) What is fibrin and how is a specimen obtained? (d) What is blood serum and how is a specimen obtained? (e) What is physiological saline solution (normal salt sol.)?

2. The circulation. Describe the adult cardiac cycle and the course of the blood. (b) Describe the fetal circulation. (c) What is a dicrotic pulse wave and its probable cause? (d) In general what is the function of the vagus?

3. What is the chemical reaction of saliva? What is its effect upon starches? (b) What is the chemical reaction of the gastric juice; what is its effect upon starches? (c) What is the chemical reaction of bile and its effect on starches? (d) What is the chemical reaction of the pancreatic juice and its effect upon starches? (e) At what stage or period of infant development may starches be fed, and why?

4. Respiration. (a) Two effects of deficient aeration. (b) What functions are performed by the respiratory tract? (c) Define apnea? (d) Trace briefly the physiological relation between dispnea and apnea.

5. Trace the course of a sound wave from its origin and to its auditory centre. (b) Trace the course of a ray of light to the visual centre. (c) What would be the result of dividing the recurrent laryngeal nerve?

HISTOLOGY

G. W. Overmeyer, M. D., Aberdeen

1. Describe the human ovum.

2. What is a cell? (b) What are the vital manifestations of cells?

3. What are the elementary tissues of the body?

4. Give brief descriptions of muscular and nervous tissues.

5. Name the coats of blood vessels and function of each in an artery.

6. Describe the structure of the spleen and pancreas.

7. Describe the mucous membrane.

8. Give the histology of the skin.

9. Give the histological structure of the tongue and pharynx.

10. Give the histological structure of the teeth and salivary glands.

CHEMISTRY

G. W. Overmeyer, M. D., Aberdeen

1. Define chemistry and atomic weight.

2. With what instruments do we determine weight of bodies? How are they adjusted and cared for? What is specific gravity and how determined?

3. What are hydrometers, urinometers and thermometers?

4. What is an element, atom, and a molecule? Give an example of each?

6. What is a poison? How can it be determined? Classify and name ten of each?

MATERIA MEDICA

J. P. Turney, M. D., Davenport

1. Define diuretics, diaphoretics, ecbolics, and soporifics, mentioning two drugs in each class.

2. What is the relative strength of a tincture as compared with a fluid extract?

3. Name five preparations of mercury, mentioning uses and doses of each.

4. What is a salt and what an alkaloid? (b) Mention mode of preparation of each.

5. What is the difference between Fowler's and Donovan's solutions and what is the adult dose of each?

6. On what does syrup pruni Virginanæ depend for its medicinal action?

7. Differentiate between the cathartic action of the following drugs and suggest class of cases where each would be preferable: Calomel, mag. sulph., elaterium and cascara sagrada.

8. Name a few of each vegetable and mineral astringents suggesting appropriate uses.

9. Mention the physiological antagonists to the following drugs: Strychnine, morphine, aconite and atropia.

10. From what sources do we obtain acid salicylic?

PRACTICE OF MEDICINE

J. P. Turney, M. D., Davenport

1. Typhoid fever. Give symptoms and suggest measures most useful to combat the disease.

2. Give symptoms, pathological anatomy and stages of lobar pneumonia.

3. Bright's disease; diagnosis including urinalysis and methods of relief.

4. Differentiate between apoplexia, uremia and epilepsy.

5. What is emphysema, how detected?

6. Differentiate between measles, scarlatina and roetheln.

7. What is ascites? Mention causes.

8. Describe a case of acne, giving etiology and suggest measures for its cure.

9. Give cause, duration and description of herpes zoster.

SURGERY

P. B. Swearingen, M. D., Tacoma

1. Give a synopsis of your method of preparing a patient and field of operation for a laparotomy. If any, what antiseptic would you advise and in what strength?

2. What are the chief contra-indications to the safe administration of an anesthetic?

3. Give the differential diagnosis between a dislocation of the head of the humerus and a fracture of the neck. Describe the treatment of the latter.

4. At what point in the forearm is the ulnar artery most accessible? Describe the ligation of same; state the kind of ligature you would employ.

5. How would you treat an infection of the hand involving the fascia and tendons? What anatomical peculiarity accounts for the fact that an infected wound of the little finger or thumb is more serious than that of the other fingers?

6. Define a simple, compound and comminuted fracture. Name the parts involved in a Pott's fracture and give treatment of same.

7. How would you recognize a gas bacillus infection? Give treatment and prognosis.

OBSTETRICS

W. C. Cox, M. D., Everett

1. What morbid conditions interfere with normal involution?

2. Give management of puerperal eclampsia.

3. What conditions indicate embryotomy?

4. What general care should be given a patient during the puerperal state?

5. Name three serious constitutional diseases that may complicate gestation.

6. Enumerate dangers as to mother and child in breech presentation. Describe management of delivery of head.

7. Give indications and contra-indications for use of chloroform during parturition.

8. Describe hyperemesis gravidarum.

9. Give clinical history and treatment of mastitis.

10. What is the importance of urinalysis during gestation?

DISEASES OF WOMEN

C. E. Grove, M. D., Spokane

1. Give nerve and blood supply of uterus.

2. Give the most common causes of dysmenorrhea.

3. What changes occur at the menopause?

4. Give etiology and treatment of acute endometritis.

5. Describe the operation for vesicovaginal fistula.

6. Give treatment of retroversio uteri.

7. Give differential diagnosis between uterine fibroid and carcinoma.

8. How do you treat the pedicle in ovariotomy?

9. Diagnose ectopic gestation in the early months.

10. Describe a trachelorrhaphy.

DISEASES OF CHILDREN

A. E. Stuht, M. D. Colfax

1. Differentiate iliocollitis from cholera infantum.

2. Differentiate diphtheria from follicular tonsillitis.

3. Describe an uncomplicated case of scarlet fever, differentiate it from measles. When would you recommend that quarantine be raised?

4. Describe a case of poliomyelitis and give prognosis.

5. What artificial diet would you recommend for an infant one month old?

6. Describe rachitis, causes and symptoms.

7. What are the symptoms of cerebrospinal meningitis?

8. Give treatment for obstinate constipation in a child six months old.

9. How would you treat a child in convulsions due to intestinal irritation?

DISEASES OF THE EYE AND EAR

J. M. P. Chalmers, M. D., Vancouver

1. What are the signs and symptoms of otitis media acuta?

2. What are the usual causes, symptoms and treatment of mastoid abscess?

3. What conditions of the nose and throat sometimes cause deafness?

4. Describe methods employed for removal of foreign bodies in the external auditory canal.

5. Describe the mechanism of accommodation.

6. What is presbyopia?

7. What is astigmatism?

8. What is ophthalmia neonatorum? Give treatment.

9. What is the treatment of simple ulcer of the cornea?

10. What is symphathetic ophthalmia and its treatment?

MEDICAL JURISPRUDENCE

J. H. Hoxey, M. D., Spangle

1. What is medical jurisprudence?

2. What is poison? Mention five different methods by which poisons may be administered.

3. Define impotency. Sterility. And give some of the causes of each.

4. What facts form the most important points in evidence when the virginity of a woman is called into question?

5. What is rape? What is consent? What is the age of consent in this state?

6. How would you ascertain whether a dead infant had lived after birth.

7. What are the legal questions to be decided by a chemical analysis?

8. What are the prominent points in the history of a case of arsenical poisoning?

PREVENTIVE MEDICINE

A. E. Stuht, M. D., Colfax

1. What are the two principal disinfectants?

2. What quantity would you use of each to disinfect a room containing one thousand cubic feet of space?

3. How would you disinfect water and milk?

4. How would you determine when a quarantine could be safely raised from a case of variola?

5. What should be done to prevent the spreading of tuberculosis?

6. What would you do to arrest an epidemic of typhoid fever?

7. Detail briefly what should be done to prevent an epidemic of smallpox in a community, where one or two cases of that disease exist?

8. Give in detail your orders for quarantining an infectious disease and tell how you would secure the execution of those orders.

9. Describe the system of quarantine in vogue at our sea-port.

10. Describe your method of fumigating a vessel.

DISEASES OF THE NERVOUS SYSTEM

F. H. Coe, M. D., Seattle

1. Simple neuritis, (b) definition, (c) causes, (d) pathology, (e) symptoms.

2. (a) Multiple neuritis, (b) definition, (c) four causes, (d) sypmtoms, 1 sensory, 2 motor, 3 trophic, (e) diagnosis.

3. (a) Define aphasia, (b) agraphia, (c) locate the motor speech area, (d) symptoms cerebral hemorrhage, (e) symptoms of cerebral embolism.

4. Briefly describe melancholia.

5. Briefly describe mania.

6. Briefly describe dementia.

HOMEOPATHIC MATERIA MEDICA

C. E. Grove, M. D., Spokane

1. Describe the physiological effects of absenthium.

2. For what class of cases is mephitis useful?

3. Describe a case of glandular trouble where conium would be indicated.

4. Give mental characteristics of ignatia.

5. What organ is most affected by cactus grandifolium?

6. Describe a case of typhoid fever in which baptisia tinct. is called for.

7. What is the sphere of action of aletris farínosa?

8. What is the usual disposition of a child requiring chamomilla?

9. Differentiate between chelidonium and leptandia in liver troubles.

10. Give treatment for erysipelas.

ECLECTIC MATERIA MEDICA

J. H. Hoxey, M. D., Spangle

1. Give indications for the use of apocynum canabinum.

2. Give indications for the use of gelsemium.

3. What are the chief dangers in the administration of large doses of potassium chlorate to children?

4. Give indications for the best method of administering dioscorea.

5. Describe the physical properties and give adult dose of the following: Tr. ferri chloridi, sodium salicylate, potassium iodide.

6. Give habitat and uses of echinacea.

7. Mention five principal alkaloids and give derivation of each.

8. Mention two mineral and two vegetable poisons and give antidote for each.

9. What are mydratics? Myotics? Mention two of each.

10. What is the difference in action between aconite and digitalis?

THE TECHNIQUE OF LAVAGE OF THE STOMACH

Neck (Centralblatt für Chirurgie) states that in washing out the stomach the question at this time is the danger attending the outflow or siphonage of the contents. The usual procedure consists in the introduction of a tube into the stomach; then the fluid is poured into the stomach through his tube, and then siphoned off again. In many cases this flowing out goes on easily, and apparently all of the fluid introduced comes away, but sometimes there are difficulties. Occasionally it is quite impossible to get all of the fluid to flow out of the stomach, even though a large amount of solution be put in. Even moving the tube about and the consequent straining on the part of the patient fail to empty the stomach. Such difficulty is often encountered in the cases where there is a motor insufficiency of the organ, especially when complicated by gastrectasis and pyloric stenosis. The question of completely emptying the stomach of its contents is an important one before operating upon that organ, as any fluid that may be present at the time the stomach is opened only tends to complicate the operation. In order to avoid this complication the author has endeavored to find a safe and easy method by which the stomach may be completely emptied of its contents. In the usual way of practising lavage the patient is placed in a horizontal position, or else remains sitting up. The author states that he believes in retaining either of these positions only as long as the siphonage goes on freely, and then the patient should be placed in the full pelvic position, and this will be followed in nearly every case by a return of the flow. The tube should then be slowly withdrawn (while the patient remains in this position), and as it comes out the last of the stomach contents will be withdrawn. In each case in which this method was practiced the stomach was found to be completely empty at the time of operation. The author has also experimented extensively on the cadaver with this method, and in each instance with great success. In conclusion he states that in those cases where the stomach is filled with particles of food the lavage must be repeated several times before the organ is emptied.—American Journal of the Medical Science.

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NORTHWESTERN STATE EXAMINATIONS

THE LANCET publishes in this issue the list of questions from the state boards of Minnesota North Dakota, South Dakota, and Washington. A comparison of the different states shows a diversity of questions, as well as a diversity of subjects.

A student fresh from the medical school would, if he were in good standing, be able to answer most of the questions; but a practitioner who moves from one state to the other, if he has been long in practice, would find many of the questions very difficult. He might be, in a general way, familiar with the subject, but wholly unable to recall his deeply-stored recollections gathered during his student days. Every man should keep up, in a general way, with general medicine, yet only when one looks over the enormous field of subjects does he realize what a state examintion means. Reciprocity among states would be a boon to the older practitioner and no injustice would occur, provided the examining board of the state would grant removal certificates to reasonably competent men, men in good standing and members of county organizations.

How many men could successfully answer the questions in anatomy asked by North Dakota and Washington? Both states ask questions that every man should have at his tongue's end, but comparing these questions with the questions of Minnesota and South Dakota, the latter are more readily answered.

The questions in Surgery from Washington and South Dakota cover the field more comprehensively than do the other states, and their answers would bring out the broader knowledge of the applicant.

In Physiology Minnesota and Washington are clearly in the lead. The man who answers the questions asked in this subject must understand the fundamental principles of physiology.

The subject of Practice of Medicine is a large one, and the various schools of medicine submit their questions, particularly if therapeutics is associated with practice.

Minnesota and Washington again lead in general practice, their questions bringing out the qualifications of the applicant more fully than the questions of the other two states.

Why is it necessary to have questions in Eclectic Medicine? The drugs and doses are too near alike to be brought into dispute. When will the time come when all such questions shall be relegated to a common basis, and propounded by one examiner?

South Dakota, Washington, and Minnesota, in the order named, test one's knowledge in Obstetrics, and the questions are uniformly fair, and to one reasonably familiar with the subject no criticism could be advanced.

The man from Minnesota who propounded the questions in Eye and Ear evidently expected all applicants to be specialists, while the men from the other states believed they were asking questions of general practitioners.

It should not be the function of the board to ask unreasonably hard questions of general applicants. Nothing is gained, for the applicants become confused by an array of matter that only one in special practice could be expected to answer.

Mental and Nervous Diseases is usually incorporated in Practice. The questions asked by North Dakota and Washington are sharp tests for any student or practitioner, and the applicant who is able to answer these questions is certainly qualified to practice.

The general practitioner must be familiar with drugs, and the subject of Materia Medica is usually uppermost in his mind after leaving the medical school or after he has been in practice a short time. The applicant must be grounded in the quality and quantity of drugs, and, above all, he should know their proper combinations, and should be able to prescribe them in proper form. No hard-and-fast rule can be applied to their administration, and much latitude must be allowed for their use. To appreciate this the man of medicine should apply himself to the study of chemistry and toxicology, then he will know more about the subject, and will better know when to let well enough alone. Most of the questions in this last subject are reasonable and answerable.

Pathology, basteriology, and histology are extremely important subjects. Just why question No. 7 from North Dakota should be asked under the head of pathology is debatable,—"Enumerate the diagnostic sounds in a diseased respiratory apparatus and describe any one of the sounds mentioned." Minnesota requires the applicant to answer a set of questions that call for an understanding knowledge of the subject rather than for specific uncertainties. The questions from Washington and South Dakota call for a close acquaintance with the subject.

In Diseases of Women the questions expect an intimate acquaintance with the various disorders of the pelvis. To the uninitiated the subject is difficult, and, if successfully answered, the country will be filled with gynecologists.

Diseases of Childhood requires the physician to be an expert diagnostician, familiar with the objective symptoms of disease with but little subjective foundation, hence the questions cover the important and most frequently met diseases. All are fair, and all should be differentiated.

The questions asked by Washington in Preventive Medicine should be copied by all examining boards.

Medical Jurisprudence is a subject that interests all examining boards, and the questions are pertinent and exhaustive.

When one compares the questions asked by boards in different states, it is very difficult to determine which state board offers the best examination. Some states are lax in their markings, and others are too exacting.

On the whole, of the western states Minnesota and Washington demand a higher plane of education, and the applicant who successfully answers a majority of the questions is well entitled to a license to practice. This rule probably applies to all states. A state examination should be conducted in a manner to bring out the best in the applicant, and the markings should be rigid enough to exclude palpably incompetent men. If all states lived up to this standard the profession and the people would be in a more enviable position.

ARE THEY FRAUDS?

Dr. George M. Haywood has called our attention to the business methods of the American Art Publishers, of 334 Dearborn St., Chicago, of whose workings he saw something a year or two ago in Rochester, N. Y. The company confines its sales apparently to doctors and dentists, whom it seemingly takes to be "easy marks," and we infer from the correspondence in the possession of Dr. Haywood that it has made no mistake.

The company has done a large business in Minneapolis through its solicitors; and it is our advice to those who have subscribed for its art works, to "pool" issues, and demand proof that the company will fulfill its promises, which it has not done in numerous instances in other cities, as Dr. Haywood's correspondence clearly shows.

We do not wish to call its method of doing business downright fraud, but it surely approaches it.

PROSECUTIONS FOR FOOD ADULTERATION

The Northwestern states have shown a commendable activity in executing the excellent laws passed by the legislatures of these states against the harmful adulteration of food. It is a pleasure to record in the columns of The Lancet advancement of this character. Our neighboring states, North and South Dakota, have long been a rich field for quacks and charlatans in medicine, but these states have resolved to put an end to bunco men along this line, and they have gone to work vigorously to accomplish their purpose.

North Dakota took the lead in this good work, and the state officials are now after the food adulteraters. The first arrest under their new pure food law was made last month, when the representative of a Chicago firm of grocers was charged with selling adulterated vinegar, maple sugar, etc.

It was not charged that these goods were injurious to health: they were simply adulterated, and were labeled pure when they were not pure.

If there were a way of keeping deleterious ingredients out of food, we should feel that the adulteration which is simply a fraud would take care of itself; but so long as manufacturers and merchants will not hesitate to use even poisons in adulterants and preservatives, the police power of the state should be used to stop all adulteration.

If North Dakota shall succeed in the full enforcement of her pure-food laws, the state will confer a benefit upon the entire nation which will compare favorably with anything done by any other state in the country's entire history.

DR. H. N. MACDONALD

The return of Dr. H. N. Macdonald, after a number of months spent in the woods of the north to regain his health, was celebrated at the Commercial Club by a banquet given him by friends. Dr. Macdonald was seriously ill during the spring months, and for a time his physicians felt that the outcome might be fatal. His Canadian constitution, and a determination that always abides with the doctor, were powerful factors in his recovery. The out-of-door life among the pines has completely restored him to health, strength, and vigor, and he has resumed his large practice much to the gratification of his loyal and waiting patients.

When a man that we know and respect as a skillful physician passes through a crisis of this sort, his return should be made a joyful one, and Dr. Macdonald merits all the good things that were or can be said of him.

The subject suggests a lesson to all busy practitioners: Do not work too hard, drop your work when you are sick, and go away from home to recuperate, and stay away until you are well.

Too many men work under pressure, or while their temperature is above normal. Both conditions are dangerous, and the risks are too great. A physician may owe much to his patients, but he owes a large debt to himself, which he must pay, one way or another.

Long life and good health to Dr. H. N. Macdonald!

CORRESPONDENCE

INTERNAL MEDICINE IN THE VIENNA CLINICS

Vienna, Oct. 1, 1903.

Editor of The Lancet:—

Many factors contribute to make Vienna a place much frequented by medical men who desire higher instruction in internal medicine. The most important of these factors are, first, the wealth of material which the clinics afford; second, the high percentage of fatal cases which come to autopsy; third, the privilege offered to post-graduates of entering the wards and personally examining the cases; and, fourth, the high grade of instruction given by men of large experience and excellent training.

In the hasty outline which the writer purposes to give of these clinics, the personality of the men conducting them, and the methods of instruction followed, it is natural to turn, first, to those figures who stand in the foreground, and are the heads of the departments of medicine in this great school.

Of these men Prof. Nothnagel is the best known, and though now over seventy years of age teaches with enthusiasm and vigor. At 8 o'clock every morning during the college year he meets the undergraduate classes in the Nothnagel Amphitheatre. To this clinic the post-graduates are also admitted; and it is an experience long to be remembered to see this white-haired old man standing before his class propounding the truths of medicine as his great knowledge and vast experience have taught him to know them.

One or sometimes two patients are used for the morning demonstration. The patient is wheeled into the amphitheatre in a rolling-bed ac-accompanied by a nurse. The assistants and internes follow the patient in, and take places near the bed. As Nothnagel enters, the students, following the German custom, rise in their seats as a mark of respect to their great teacher. He first calls down a student into the amphitheatre who takes his place beside the bed of the patient. The history of the case with all laboratory findings is then read by one of the assistants. After addressing a few questions to the patient to elucidate points in the history, Nothnagel proceeds, first, to an analysis of the symptoms described in the history; second, to the examination of the patient; third, to the interrogation of the student at the bedside as to diagnosis and differential diagnosis; and finally, closes his clinic with remarks upon diagnosis, differential diagnosis, and treatment. Prof. Nothnagel deals more fully with treatment than any of the other teachers of internal medicine in Vienna. In his lectures he speaks slowly and distinctly, always with emphasis upon important points and with an enthusiasm remarkable in a man of his age.

At the head of the second division of internal medicine stands another great teacher, Prof. Neusser, whose reputation rests more perhaps upon his skill in diagnosis than upon his power of imparting knowledge. He is a comparatively young man, and was recently given the title of "Hofrath" by the Austrian emperor. Wonderful are the stories told about the Krankenhaus of his skill in diagnosis; and one is perhaps a trifle disappointed when going into his clinic to see a man short in statue, with a quiet manner, and a voice difficult to hear in the back seats of the amphitheatre. Neusser conducts his clinic much like that of Nothnagel. He deals most exhaustively in differential diagnosis, of which he is master. One needs but to follow the cases from Neusser's wards to the post-mortem room to be convinced of the diagnostic skill of this remarkable man.

No American would consider a review of the clinics of internal medicine complete without the mention of Prof. Qvostec, better known the world over for his work in nervous diseases. Qvostec gives an amphitheatre clinic three days a week upon nervous diseases, and two days a week upon diseases of the heart. Tall, large-framed, with piercing black eyes, he is a most fascinating lecturer, dramatic in his manner, forceful and direct in his statements. From the moment he enters the amphitheatre until he bows his way out, every eye is rivited upon him. It is impossible to do otherwise. In his demonstrations of heart lesions he lays much emphasis upon the signs elicited by inspection, palpation, and percussion, and little stress upon the auscultatory sounds. His methods of illustrating the heart's activity in health and disease are very ingenious and original.

Of the teachers of internal medicine who give instruction to post-graduate students only, the name of Kovacs should be mentioned first. He is a primararzt, and has under his control four wards, numbering about one hundred beds. Ten men compose a class and each man is assigned each day by Kovacs' first assistant a ward case to examine. The case or cases to be demonstrated by Kovacs are indicated upon the assignment sheet. At the appointed hour for the clinic the ten men take their seats about the bed of the patient to be demonstrated, the majority of whom have previously examined the case. Kovacs enters followed by his assistants, and takes his seat at the head of the bed. He first asks each man in turn his diagnosis of the case, stopping now and then to bring out the reasons for the same. He then reads the history of the case, makes the examination of the patient in all details, sums up the chief points in the history and physical examination, and finally states his own diagnosis and the reasons for it. Treatment is rarely mentioned in his clinic. Kovacs is a brilliant teacher. He is never obscure, but is always clear and direct. He consumes little time in the examination of his cases before the class, but occupies a part of his hour in the discussion of some one of the important symptoms which the case presents. For example, if the case is one showing well-marked abdominal ascites he will take up the subject of ascites, and speak of the varieties, the character of the fluid seen in the different forms, the diseases in which fluid is found in small amount and those in which a high grade of ascites is seen, etc. Previous to his demonstration he reports upon the post-mortem-findings in the fatal cases, and points out wherein the clinical diagnosis was correct or in error. Heart, lungs, liver, kidney, and nervous cases predominate in his clinic.

The best instruction given to post-graduate students is the course of Neusser's first assistant, Dr. Turck, who has under his charge two wards numbering about sixty beds. His clinic is conducted much like that of Kovacs. Ten men compose the class, each one of whom is assigned a ward case for examination each day. The case or cases to be demonstrated by Turck are designated, and at the appointed hour the men take seats about the case first to be examined. Turck enters the ward, and takes his place at the head of the bed. The man whose turn it is to demonstrate gives a short history of the case, tells his findings upon examination and his diagnosis. Each man in the class is then asked his diagnosis. Turck then reads the history of the case, following it with a most careful and exhaustive examination of the patient. The laboratory findings are then gone over, and finally the diagnosis made. Turck is a most careful student of his cases. No detail in the examination is too trifling for him to omit. He delights most in demonstrating stomach, kidney, and blood diseases, and obscure cases of abdominal tumors, such as echinococcus of the liver, Grawitz tumors of the kidney, chloroma, and the like. His diagnostic horizon is wide, and his discussion of the list of pathological conditions, to be considered in the diagnosis of each case is masterly. He is an eccentric man, nervous, but a very hard worker. He is perhaps a little inclined to lean toward the rare conditions in differential diagnosis, but one can forgive him for this in wards where so many rare and interesting cases are shown.

Neusser's second assistant, Schmidt, has under charge two wards, and also gives instruction in internal medicine to post-graduates. His methods differ from those of Turck in that he confines himself largely to the quiz method of instruction. He talks very little himself, but keeps constantly firing questions at the students of his class. Schmidt is especially strong upon diseases of the heart. He is not as careful a student of his cases as Kovacs or Turck, and often demonstrates them without blood, urine, or stomach-findings necessary to a well-grounded diagnosis. He is likewise inclined to be rather dogmatic in his conclusions, which fault, however, suits some students.

Anyone wishing splendid instruction in heart and lung diseases should not fail to spend a few months in the clinic of Neusser's third assistant, Stejskal. His material is drawn from the big ambulatorium of Neusser of which he has charge. No one shows more exquisite cases of beginning tuberculosis of the lungs, nor demonstrates them more satisfactorily. All varieties of heart lesions in great numbers, many cases of aortic aneurism, thoracic tumors, and the like are to be seen in his clinic. Stejskal is very slow and painstaking in his demonstrations. Every case is examined before the class in all its details. His material coming from an ambulatorium, he is often obliged to be content with a meagre history, and few, if any, laboratory findings. He does not follow the quiz method of instruction, and rarely asks of his students more than the diagnosis. He is, however, always willing to answer questions, and is a favorite with American students.

Of the many other men who, from time to time, give postgraduate instruction not much need be said.

Czyhlarz, Nothnagel's first assistant, gives courses, but has few students. He is too young and too dogmatic. Braun, Reitter, and others also give post-graduate courses, but their diagnoses are not well confirmed at autopsy and the men have little confidence in what they have to say.

It is to be presumed, however, that in this great hospital many an assistant is doing splendid work in internal medicine who has no post-graduates to follow him about his wards and praise his skill. Dame fortune seems to be fickle, even with teachers of internal medicine. Five years ago, it is said, few students were to be found in the course of clinical diagnosis given by Turck. To-day he is in high favor with the post-graduates, and keen is the competition for places in his class. But a man in his position can learn a great deal in five years of service under Neusser.

Geo. Douglas Head.

BOOK NOTICES

American Text-Book of Surgery. For Practitioners and Students. Edited by William W. Keen, M. D., LL. D., F. R. C. S. (Hon.), Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; and J. William White, M. D., John Rhea Barton Professor of Surgery, University of Pennsylvania, Philadelphia. Fourth Edition, Thoroughly Revised and Greatly Enlarged. Handsome octavo of 1363 pages, with 551 text-illustrations and 39 full-page plates, many in colors. Cloth, $7.00 net. Philadelphia: W. B. Saunders & Company.

Of the three former editions of this work nearly 40,000 copies have been disposed of. Its sale, indeed, has been the wonder of the medical publishing world. In this present edition every chapter has been extensively modified, and many of them have been partially, and some entirely, rewritten. Notably among such chapters are those on Surgical Bacteriology, Tumors, the Osseous System, Orthopedic Surgery, the Surgery of the Nerves, the Joints, the Abdomen, etc. The most recent researches of Monks on the Intestines, Crile and Cushing on Shock and Blood Pressure, Matas on Neural Infiltration and Aneurysm, Edebohls on Renal Decortication, etc., have been included. The use of paraffine in nasal deformities, the methods of spinal and local anesthesia, and the newer anesthetics have also been described. And this is but an illustration of the completeness and thoroughness of the entire work.

Besides the extensive revision and amplification of the old matter, there have been added six new chapters of the utmost importance, written by men whose positions and experience especially fit them to speak with authority. These chapters are Military Surgery, Naval Surgery, Tropical Surgery, Examination of the Blood, Immunity, and Surgery of the Pancreas. Though there was a brief chapter on the Pancreas in the third edition, in this present edition it has been expanded so greatly that it really is wholly new, the modern surgery of the Pancreas having been created since the last edition. A number of the old illustrations have been replaced by better ones, and, in addition, there have been added a number entirely new. In fact, we know of no single volume work that is even its equal in the expounding of the advanced and practical principles of modern surgery.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1903. A yearly Digest of Scientific Progress and Authoritative Opinions in all branches of Medicine and Surgery, drawn from journals, monographs, and text-books of the leading American and foreign authors and investigators. Arranged, with critical editorial comments, by eminent American specialists, under the editorial charge of George M. Gould, A. M., M. D. In two volumes— Volume I, including General Medicine, Octavo, 700 pages, fully illustrated; Volume II, General Surgery, Octavo, 670 pages, fully illustrated. Cloth, $3.00 net; Half Morocco, $3.75 net. Philadelphia: W. B. Saunders & Co.

We do not know of any similar publication, either American or foreign, that can compete in any way with this excellent Year-Book, published by W. B. Saunders & Company. It is not an indiscriminate collection of extracts clipped from any and every journal: the matter is carefully selected, edited, and in numerous cases commented upon by the eminent authorities whom Dr. Gould has enlisted as his assistants. Every new theory and scientific discovery worthy of the consideration of the profession has found a place in this unusually complete Year-Book; and the names of the several editors are sufficient guarantee of a proper discrimination. The work comes to us in the same dress as last year—in two volumes. Volume I contains General Medicine, and Volume II General Surgery, the volumes being sold separately if desired. As usual the illustrative feature is well taken care of, there being eleven full-page inserts, besides many excellent text-cuts. We strongly recommend Saunders' American Year-Book as the best work of its kind on the market.

CLINICAL EXAMINATION OF THE URINE AND URINARY DIAGNOSIS. A Clinical Guide for the use of Practitioners and Students of Medicine and Surgery. By J. Bergen Ogden, M. D., formerly Instructor in Chemistry, Harvard University Medical School, Boston; Assistant in Clinical Pathology, Boston City Hospital, etc. Second Revised Edition. Handsome octavo volume of 418 pages, illustrated, including 11 plates, 9 of them in colors. Cloth $3.00 net. Philadelphia: W. B. Saunders & Co.

The aim of this work is to present in as concise a manner as possible the chemistry of the urine in its relation to physiologic processes; the most approved working methods, both qualitative and quantitative; the diagnosis of diseases and disturbances of the kidneys and urinary processes. It is a work eminently in demand, since most of the books on the urine are devoted exclusively to urinary chemistry, a knowledge of urinary diagnosis being obtainable only by an extended search through works on medicine, surgery, pathology, and chemistry.

In this, the second edition, special effort has evidently been directed toward making the text complete and bringing it absolutely down to the present day advances in the subject. Important changes have been made in Part I, especially in connection with the determination of Urea, Uric Acid, and Total Nitrogen; and the subjects of Cryoscopy and Beta-Oxybutyric Acid have been given a place. The changes in Part II, while not so extensive, are nevertheless numerous and practical, and show that the author has spared neither pains nor time in making the revision thorough. It is a good book, and both student and practitioner will find it a valuable aid in their clinical work.

NEWS ITEMS

Dr. D. W. Bottin has moved to Frederick, S. D.

Dr. F. W. Simpson, of St. Paul, has located at Roseau.

Dr. A. N. Evarts, of La Porte City, Iowa, died last month.

Dr. J. B. Dunn, of St. Paul, is home from his European trip.

Dr. W. D. Thomlinson, of Chicago, has located at Leola, S. D.

Dr. E. L. Hills has moved from Parker's Prairie to Warroad.

Dr. P. H. Sunday, of Illinois, has located at Northwood, N. D.

Dr. H. B. Schofield has moved from Scotland, S. D., to Sioux Falls.

St. John's Hospital of Red Wing will conduct a training-school for nurses.

Dr. M. O. Hansen has given up practice at Madelia, and will go south.

Dr. G. R. Pease, of Redwood Falls, is at home from an Eastern trip visiting hospitals.

Dr. W. R. Morrison, of Bemidji, is taking a special course in nose and throat work in Chicago.

Dr. A. J. Gifford, of Alexandria, S. D., has been doing special work in the Chicago Policlinic.

Dr. James Flemming, of Cloquet, and Miss Marion M. Clark, of Duluth, were married last month.

Dr. M. A. Desmond has located at Aitken. and will be associated with Dr. J. F. Averv of that place.

Dr. P. O. Stonebraker has moved from Olivet to Scotland, S. D., taking the practice of Dr. Schofield.

Dr. Conrad De Jong, of Edgerton, has decided to locate at Orange City, Iowa, which was his old home.

Dr. H. V. Magnusson, who graduated from the State University this summer, is located at Cannon Falls.

Dr. J. A. Johnson, of Bottineau, N. D., was married last month to Miss Emma Babler, of Humbird, Wis.

Dr. H. O. Schlaben, State University, '03, has purchased the practice of Dr. G. S. Carpenter, of Lake Benton.

Dr. F. G. Watson, Hamline, '03, has located at Clarkfield, having practiced a few months at Le Sueur Center.

A new hospital building is being erected in Walker, and the hospital will be in charge of Dr. F. L. Wilcox.

Dr. John W. Kerr, of the U. S. Marine Hospital Service, has just been stationed at Duluth for the inspection of immigrants.

Dr. W. D. Miner, a graduate of Northwestern of Chicago, has located in Courtenay, S. D., and formed a partnership with Dr. Miner.

Dr. Marion A. Mead, of Minneapolis, who has been attending nose and throat clinics in New York City, has returned to her practice.

Dr. C. D. Harrington, of Cloquet, formerly associated with Dr. J. H. Dunn, of Minneapolis, has established a hospital at the former place.

Dr. Gottfried Schmidt, a recent graduate of the State University, has located in New Ulm, having purchased the practice of Dr. G. F. Beachler.

Dr. D. E. Arnold, of Hecla, N. D., has moved to Aberdeen. The local newspaper of Hecla says there is a good opening at that place for a physician.

Dr. I. N. Wear, of Fargo, who was taken so seriously ill during the summer, while in Chicago and on his way abroad, still expects to visit Europe.

Dr. J. H. Van Dyke, of Alexandria, has moved to Raymond, and will take the practice of Dr. D. J. McMahon. Dr. Van Dyke is a recent graduate of Rush.

Dr. O. W. Parker, State University, Class of 1900, who has been practicing at Soudan, has gone to Ely and will be on the staff of the Shipman Hospital.

Dr. George H. Shrodes, of Excelsior, has sold his practice to Dr. E. G. Sasse, of Revillo, S. D. Dr. Shrodes will travel in the interests of his new invention, the Shrodes head-light.

Dr. Quincy E. Andrews, of Moorhead, who has been practicing in Minnesota for about thirty-five years, died last month at the age of 70. He formerly practiced at Farmington and Alexandria.

The annual Alvarenga prize, offered by the College of Physicians, of Philadelphia, has been awarded to Dr. W. S. Carter, of Galveston, Texas, for his essay upon "The Relation of the Parathyroids to the Thyroid Glands."

The Park Region District and County Medical Society met at Fergus Falls last month and elected the following officers: Dr. E. A. Hensel, Alexandria, president; Dr. C. K. Bergquist, Henning, vice-president; Dr. A. C. Baker, Fergus Falls, secretary and treasurer.

The counties of Mille Lacs, Isanti, and Kanabec organized a medical society last month with the following officers: President, Dr. H. C. Coonely, Princeton; vice-president, Dr. J. F. Bacon, Milaca; treasurer, Dr. G. R. Caley, Bethel; secretary, Dr. T. L. Armitage, Princeton.

The Red River Valley Medical Society held its annual meeting last month at Crookston, The following were elected officers for the ensuing year: President, Dr. J. S. Wattam, Warren; vice-president, Dr. C. H. Denniston, Crookston; secretary and treasurer, Dr. H. Holte, Crookston.

FOR SALE

A Geneva retinoscope will be sold cheap. Address Dr. H. E. Conley, Cannon Falls, Minn.

INTEREST IN HOSPITAL FOR SALE

This hospital is located in a North Dakota village of 1,000 inhabitants. Two railroads pass through the place, and there are several good towns and a large territory tributary. Myself and partner are the only physicians in the place. We have the business of the railroads, and of the county and village. The practice and business pay $20,000 yearly. The hospital has twenty beds and cost $16,000. I own $3,000 of the stock and one-half interest in all the fixtures. I will sell at cost my stock and interests, with a five-room cottage, with steam heat, hot and cold water, bath, five lots, etc. The total is about $8,000. Purchaser must be a surgeon of some experience. I will give references to Minneapolis physicians of the highest standing. Reason for selling: I am compelled to go to a milder climate. Address S. care of NORTHWESTERN LANCET, Minneapolis.

PHYSICIANS LICENSED AT THE OCTOBER EXAMINATION TO PRACTICE IN MINNESOTA.

We publish this list in this form at the request of the State Board of Medical Examiners, in order that the names may be pasted in the Official Register, copies of which are sent free by the Board to anyone who applies for the same and remits five cents to pay the postage.

Boulter, J. H. (R); McGill Uni., 1903; Oct. 16, 1903............Picton, Ont.
Bath, D. H. (R); Rush, 1902; Oct. 16, 1903..................LaCrosse, Wis.

Cooper, D. J. (R); Hamline, 1903; October 16, 1903................Owatonna
Cook, Frederick (R); Northwestern Chicago, 1903; Oct. 16, 1903..Prescott, Wis.

Desmond, M. A. (R); P. & S. Chicago, 1903; Oct. 16, 1903............ Aitken

Fields, R. B. (R); Rush, 1903; October 16, 1903.................Rochelle, Ill.
Freeman, W. L. (R); Rush, 1903; Oct. 16, 1903......................Eyota
Fairall, H. S. (R); Uni. of Iowa, 1903; Oct. 16, 1903............Superior, Wis.

Goldsmith, E. A. (H); Chicago Home Med. Col., 1903; Oct. 16, 1903..St. Paul
Gray, C. E. (R); Uni. of Minn., 1903; Oct. 16, 1903...............Minneapolis

Johnson, C. E. (R); Rush, 1903; Oct. 16, 1903.............Pilot Mound, Ia.
Johnson, O. F. (R); Hamline, 1902; Oct. 16, 1903....................St. Paul
Juliar, R. O. (R); Uni. of Minn., 1903; Oct. 16, 1903.................Shelly
James, P. E. (R); Omaha Med. Col., 1902; Oct. 16, 1903...........Hutchinson

Lupton, E. A. (R); Rush, 1903; Oct. 16, 1903....................Minneapolis

Meleck, H. N. (R); Hamline, 1903; Oct. 16, 1903................Minneapolis

Rogers, H. W. (R); Northwestern, Chicago, 1903; Oct. 16, 1903..Montevideo
Reay, G. R. (H); Chicago Homeo. '96 & Rush, 1898; Oct. 16, 1903......Hokah

Smith, C. C. (R); Northwestern, Chicago, 1903; Oct. 16, 1903....Merrill, Wis.
Schaleben, H. O. (R); Uni. of Minn., 1903; Oct. 16, 1903...... Lake Benton
Stevens, C. C. (R); Uni. of Mich., 1903; Oct. 16, 1903...............Jasper

Thomas, Benj. (R); P. & S. Chicago, 1903; Oct. 16, 1903.............Chokio

Van Dyke, J. H. (R); Rush, 1903; Oct. 16, 1903.................... Raymond
Vidal, J. W. (H); Uni. of Mich., 1882; Oct. 16, 1903..........Fargo, N. Dak.

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HOW SHALL WE TREAT APPENDICITIS?*

By A. T. Conley, M. D.

CANNON FALLS, MINN.

I fear that many a medical man thinks a great deal too much has been already said and written about appendicitis. For the last dozen years medical journals have been full of it, and medical societies from Maine to California and from Florida to Minnesota, have dinned it in our ears until many a doctor is sick and tired, not to say nauseated, with it. Why, even the laity understand all about it, or think they do, which is the same thing, often volunteering to give advice to the doctor. It is perfectly safe, I think, to say that no other disease that flesh is heir to has been so thoroughly exploited in these United States as this same appendicitis; and yet the last word has not been said or written, and will not be for some time to come. We are never through with any subject until it is thoroughly understood. A number of times we thought we had got down to bed-rock and had a sure foundation to build a right treatment upon, when a more energetic and thoughtful student would prove that we were building on shifting sand.

Along in the early nineties I, along with most doctors perhaps, thought an operation was the patient's only salvation, and as soon as I was sure of my diagnosis I recommended sending for a surgeon to do the work. I really thought from what I read and heard at that time that nearly all cases of appendicitis would die if not operated upon, but, fortunately for my patients, they and their friends were slow to accept my conclusions, and I was surprised to find that most of these cases got well on the old opium and morphine treatment. Now, the facts are that most cases of appendicitis will get well on any treatment, or on no treatment; and, moreover, many of them never have a second attack, though I admit this is not the rule.

At this time and for some years following the great surgeons whose lectures we heard and whose writings we read told us that all cases should be operated upon. "Operate any time; don't wait an hour after you have made your diagnosis." And most medical men accepted this teaching. If now and then we found a man preaching anything else, he was sneered at and called a crank or kicker, and laughed out of court. Of course a large percentage of those operated upon died, but we were comforted with the doctrine that an operation was the last and only chance the poor patient had, and he had been given that chance. Some times we were told that the surgeon had been called too late; that the physician in charge had lulled the patient and himself into a cheerful lullaby rest with his morphine or opium, from which both had a rude awakening,—one to die and the other to censure and oftimes to the lashings of his own conscience, that he had neglected a lost opportunity and thereby sacrificed a precious life, and his brother surgeon honestly concurred in this opinion. But before very long there came some consolation to the doctor of internal medicine, and it came the surgeon's turn for his conscience to put in some legitimate work, for he was forced to notice that nearly all cases operated upon after the second day, up to the seventh or eighth day, died. Now the doctor with his opium was doing much better than that, and it was at this time, some six or eight years ago, that we began to hear much about the "medical treatment of appendicitis;" and, strangely enough, it came from some of the most successful surgeons.

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*Read before the Goodhue County Medical Society, October 6, 1903.

I remember that Fenger of Chicago, one of our really great pathologists, made this rather astounding statement: "Ninety per cent of all cases of appendicitis are medical cases." Of course, he was properly trounced for such unorthodox surgical talk, and like Ochsner today, who had the hardihood to say in the last meeting of the American Medical Association at New Orleans that 100 per cent of all cases that he had treated of acute appendicitis by his method had recovered without operation. He, Ochsner, has been roasted to a turn by most of the great surgeons in the East. I noticed at Saratoga and New Orleans that they never lost an opportunity to give him a thrust, not under the traditional 5th rib, but at a point we are in the habit of calling McBurney's. My! but wouldn't Deaver and Gibbon and a lot of those fellows like to get at Ochsner's appendix? Why, they would cut it up into a hundred bits, and distribute them among the faithless as souvenirs.

It was no longer ago than the last meeting of the American Medical Association at St. Paul, two years ago last June, that Deaver read a paper before the Medical Section (most of you remember it), and, mind you, I say the Medical Section—he assumed, I suppose, that the Surgical Section was enlightened—and he advocated and pressed home with all the energy and eloquence of which he is master—and he is a very forceful speaker—the necessity of operating in every case of appendicitis. He held that there was no such thing as a medical case: they were all surgical cases.

And now Ochsner comes along,—and he too is a great surgeon,—and says all cases of acute appendicitis can get well without an operation! Surgery in the hands of experts can't quite equal that. Paint him black and burn him at the stake for teaching such an awful unsurgical doctrine as that! And yet Ochsner is a great surgeon, and as he has himself operated a few thousand times, more or less, for appendicitis, of course he cannot renounce operating entirely. He, like all good surgeons, advises the early operation—"The first-two-day operation." I wonder why Senn and Webster and those other good fellows who were treating Sir Thomas Lipton in Chicago a few weeks ago did not go for the great yachtman's appendix. They certainly had the case early enough. I think very likely Sir Thomas would not let them. And do we not all approve of his decision? Why be operated if we can get well more safely without an operation?

But it is time to consider the treatment of this much fought over little, miserable, useless, diseased organ, the vermiform appendix. The treatment I have followed this year has practically been Ochsner's. I presume most of you have his little book called "A Handbook of Appendicitis," which came out last year. If not, I advise you to get it, though no doubt you are all following "the starvation plan" of treatment, for so far it is the best treatment that has appeared.

At the last meeting of the American Medical Association at New Orleans he gave twelve rules for the treatment of appendicitis, which are better than anything in his book. They are printed in the issue of Aug. 29 of the Journal of the A. M. A., but for fear that some may not have read them I will give them here.

1. The mortality in appendicitis results from the extension of infection from the appendix to the peritoneum or from metastatic infection from the same source.

2. This extension can be prevented by removing the appendix while the infectious material is still confined to this organ.

3. The distribution or extension of the infection is accomplished by the peristaltic action of the small intestines.

4. It is also accomplished by operation after the infectious material has extended beyond the appendix and before it has become circumscribed.

5. Peristalsis of the small intestine can be inhibited by prohibiting the use of every form of nourishment and cathartics by mouth and by employing gastric lavage in order to remove any substances of food or mucus from the stomach.

6. The patient can safely be nourished during the necessary period of time by means of nutrient enemata. Large enemata should never be given, for they may cause the rupture of an abscess into the peritoneal cavity.

7. In case neither food nor cathartics are given from the beginning of the attack of acute appendicitis and gastric lavage is employed, the mortality is reduced to an extremely low percentage.

8. In cases which have received some form of food and carthartics during the early portion of the attack and are consequently suffering from a beginning diffuse peritonitis when they come under treatment, the mortality will still be less than 4 per cent, if peristalsis is inhibited by the use of gastric lavage and the absolute prohibition of all forms of nourishment and cathartics by mouth.

9. In this manner very dangerous cases of acute appendicitis may be changed into relatively harmless cases of chronic appendicitis.

10. In my personal experience no case of acute appendicitis has died in which absolutely no food of any kind and no cathartics were given by mouth from the beginning of the attack.

11. The mortality following operations for chronic appendicitis is exceedingly low.

12. Were peristalsis inhibited in every case of acute appendicitis by the methods described above, absolute prohibition of food and cathartics by mouth and use of gastric lavage, appendectomy during any portion of the attack could be accomplished with much greater ease to the operator and correspondingly greater safety to the patient.

I would make the following suggestions for the treatment of appendicitis with a view of reducing the mortality:

1. Patients suffering from chronic recurrent appendicitis should be operated on during the interval.

2. Patients suffering from acute appendicitis should be operated on as soon as the diagnosis is made, provided they come under treatment while the infectious material is still confined to the appendix, if a competent surgeon is available.

3. Aside from insuring a low mortality this will prevent all serious complications.

4. In all cases of acute appendicitis without regard to the treatment contemplated the administration of food and cathartics by mouth should be absolutely prohibited and large enemata should never be given.

5. In case of nausea or vomiting or gaseous distention of the abdomen, gastric lavage should be employed.

6. In cases coming under treatment after the infection has extended beyond the tissues of the appendix, especially in the presence of beginning diffuse peritonitis, conclusions four and five should always be employed until the patient's condition makes operative interference safe.

7. In case no operation is performed neither nourishment nor cathartics should be given by mouth until the patient has been free from pain and otherwise normal for at least four days.

8. During the beginning of this treatment not even water should be given by mouth, the thirst being quenched by rinsing the mouth with cold water and by the use of small enemata. Later small sips of very hot water frequently repeated may be given and still later small sips of cold water. There is danger in giving water too freely, and there is great danger in the use of large enemata.

9. All practitioners of medicine and surgery, as well as the general public, should be impressed with the importance of prohibiting the use of cathartics and food by mouth, as well as the use of large enemata, in cases suffering from acute appendicitis.

10. It should be constantly borne in mind that even the slightest amount of liquid food of any kind given by mouth may give rise to dangerous peristalsis.

11. The most convenient form of rectal feeding consists in the use of one ounce of one of the various concentrated liquid predigested foods in the market, dissolved in three ounces of warm normal salt solution introduced slowly through a soft catheter, inserted into the rectum a distance of two or three inches.

12. This form of treatment can not supplant the operative treatment of acute appendicitis, but it can and should be used to reduce the mortality by changing the class of cases in which the mortality is great est into another class in which the mortality is very small after operation.

Since the first of January, this year, I have had four cases of appendicitis. I also saw one case in consultation with my brother, Dr. H. E. Conley. In these five cases Ochsner's method was followed so far as to give absolutely no food. Two of these cases were recurring appendicitis in women past middle life; each had had three or four previous attacks. Believing these cases to have been of the catarrhal variety, and caused by overeating and constipation, the first thing I did was to give a tablespoonful of sulphate of magnesia in a glass of water, and as soon as this had acted I gave 15 drops of the deod. tr. of opium and applied an ice-bag over the right side of the abdomen. These cases both recovered in a few days. I gave them instructions to keep sulphate of magnesia in the house, and on the slightest symptoms of another attack to take a full dose. I found that this treatment works well in my own case, for I have had the thing myself. Four years ago last August I had quite a severe attack, and was in bed a week under the influence of morphine, much of the time with a good-sized poultice over the diseased organ.

The following year in the same month I had a most severe case to treat in a girl of 15 years old. I recommended an operation in this case, and told the friends I thought the girl would die if she was not operated upon, but as an aunt had just died in a hospital after an operation, they would not consent. Well, fortunately for all concerned, the abscess ruptured into the bowel. Still, every few days she would have great pain; and this, I found, was promptly relieved by a good saline cathartic. Along about this time I had my second attack, so I too, took "salts," and found it relieved me promptly; and since that time as soon as I begin to feel that old peculiar uneasiness in my appendix I take sulphate of magnesia, and it has acted like a charm; and therefore in this particular form of appendicitis I am a firm believer in "salts." In the other three cases I gave no cathartics, as they had been sick for more than two days before I was called, but all food was stopped at once, and the ice-bag applied. Some form of opium was given until all pain was relieved, when the opiates were promptly discontinued. These cases all recovered in from two to three weeks, and none of them, so far, have had any recurring symptoms.

Ochsner makes quite a point of lavage. I used it in none of these cases, and usually it seems to me it is unnecessary, for about the first thing that happens in an acute attack of appendicitis is vomiting most thoroughly. I know it was so in my case, and though I almost never vomit, in that case I was sure my shoes would come up next. Therefore, if the stomach is thoroughly emptied, what is the use of pestering the patient by running two or three feet of stomach-tube down his throat, never at any time a pleasant thing for the patient? The retching and heaving at such a time are more likely to distribute the infection over the bowels and peritoneum than a saline cathartic would to empty the bowels. But if the infection is still confined to the appendix I cannot see that either lavage or carthartic could do any harm. On the contrary, as perfect rest for stomach and bowels is the thing most to be desired, both should be emptied as completely as possible, and as soon as possible, and thus prevent the accumulation of septic material within the alimentary tract.

Now, lest you may be coming to the conclusion that I do not believe in operating for appendicitis at all, I hasten to say I do, but I do not believe in the early operation—"the first-two-day operation," and for the reasons already given.

If, as Ochsner says, in his hands he has never lost a case of acute appendicitis, and the rules are so simple that all can follow them, then why waste time farther in advocating the early operation? Surgeons, I think, are beginning to see this, and to act accordingly. But later, if, as sometimes happens, a circumscribed abscess forms, it should be evacuated, and drainage established. This any doctor can do, provided he does no monkeying with the appendix itself. Just be satisfied to open and drain the abscess, and later on, if the patient does not entirely recover and invalidism is threatened, he should go to the hospital and get the most competent surgeon he can find to operate and remove the appendix.

These, then, to summarize, are my conclusions, and the way I am now treating appendicitis. I may change them as I often have before, but for the present they seem pretty near bed-rock.

If called early before there are any signs that the infection has left the appendix and if the stomach will retain it, give a saline cathartic, but if vomiting is persistent and the pain intense give from a quarter to half a grain of morphine hypodermically. Then, after the patient is comfortable, give the saline in small doses repeated every two hours until it acts; and then, if the pain returns, give one or two doses of fluid opium, but no more. Give as little opium after the first dose as possible to maintain comfort of patient.

Apply the ice-bag as soon as the diagnosis is made. This on the whole is to be preferred to the poultice; then make it plain and emphatic that absolutely no food is to be taken in any form by the mouth. This is the keystone to the arch, the one thing to be insisted on over everything else. If the stomach has not been thoroughly emptied by vomiting, then use lavage, otherwise I see no great benefit in it. Practically no medicine is needed, but as most patients feel better to be taking something, give small doses of tr. nux. vom. or salol or salyc. of sodium.

If the bowels become distended with gas and uncomfortable, give eight or ten drops of turpentine. On the third or fourth day begin the rectal feeding, using predigested food or simply new milk. With this combine normal salt solution in equal quantities. Inject about four ounces every four or five hours. It is surprising how soon patients become comfortable on this treatment. Older patients lie quiet and complain of nothing, but children are more restless and beg for something to eat.

If the temperature drops to normal and all symptoms improve and there is no sign of an abscess for two or three days, begin to give milk in small quantities. This may be as early as the fourth or fifth day in the mildest cases, or it may be delayed for ten, fifteen, or twenty days in severe cases.

If an abscess forms, open and drain it. Later, in any case, if the patient does not recover or has much trouble with recurring attacks, with threatened invalidism, send him to the hospital to be operated upon.

RICKETS*

By G. M. F. Rogers, M. D.

BUFFALO, MINN.

Rickets is a constitutional disease, with the most marked lesion in the growing bones. In all probability it is a very ancient disease. It is said that an old statue of Aesop, which was thrown from a precipice by the Delphians, in the year 564 B. C., exhibited rachitic deformities. Hippocrates, born 460 B. C., alludes to it in his treatise on the articulations. Celsus and Galen, in the second century, A. D., refer to rickets in their writings. The disease was first accurately described by Glisson, in the middle of the seventeenth century.

Rickets is found in every part of the world, but more particularly in the large cities of Europe, where it is estimated that 50 to 80 per cent of all children in the clinics show signs of rickets. In this country the disease is also quite common in the large cities, negro and Italian children being more subject to it than others, probably accounted for by their living in the poor tenement districts with poor sanitary surroundings, and the lack of proper food, sunshine, and good air. A large percentage of America's cases are imported by the poorer classes of Europe, who come to this country every year. It is a peculiar fact that the disease is never seen in Japan. The women of Japan have an abundance of milk, and they nurse their children considerably longer than other women, supplementing other food after the first year. The Japanese, as a nation, live largely upon fish, the oil of fish, rice, etc.

Rickets affects male and female children equally. It is a disease of the first and second years of life, although some writers describe a late ricket, appearing as late as the ninth and twelfth years, but this is not considered correct. Although it is a disease of the destitute, it is found occasionally in the most comfortable of families. In these cases it is caused by the diet, and is a question of quality rather than quantity, as such families usually give their children some patent baby food, and these foods are lacking in the three chief elements found in the natural foods of young animals, viz., animal fats, proteids, and earthy salts. There are four theoretical causes for this disease:

1. The presence of lactic acid in the blood, holding the lime salts in solution. This theory was brought forward by Dr. Heitzman after experimenting upon animals. He gave lactic acid by the mouth and injection to animals, and produced a condition very similar to rickets. He believed that there was a faulty digestion producing lactic acid, and that the acid produced a chemical change in the salts of the blood. This theory is not held to be correct, for there are many cases in which an increase of lactic acid cannot be shown to be present.

2. The theory of a deficiency of lime salts is founded largely on the chemical analysis of rickety bones, the calcium salts being as low as 25 per cent in many cases.

3. The third theory, that there is an inflammation of the epiphyseal cartilage and of the periosteum, was presented by Dr. Kossowitz from the fact that there is always found a hyperemia of the periosteum, cartilage, and marrow of the bones, thus causing a faulty development and a change in the bone already formed. If this be a true inflammation, it is of a chronic type, somewhat similar to cirrhosis.

4. The fourth theory, that there is some irritant in the blood, is purely suggestive, as nothing is known of its nature.

Syphilis also has been considered by some as a cause, but this has not been proven. The theory that has the most followers, is that it is caused by an inability to digest and assimilate the fats, proteids, and phosphates. The pathology of rickets refers particularly to the bony system, but all tissues of the body are affected more or less by the malnutrition.

Normally, bones grow in three ways.

1. They increase in length by the production of bone in the cartilage between the epiphysis and diaphysis.

2. They increase in thickness by the production of bone from the inner layers of the periosteum.

3. By the disappearance of bone from the inner layers of the medullary canal.

All of these processes go on in a proper proportion. In rickets these processes are affected, and go on irregularly. The increase of the cells in the cartilage and beneath the periosteum goes on very rapidly and irregularly, while ossification is very irregular, and sometimes wanting. The change in the medullary canal proceeds rapidly and faultily, producing the dilatation. These changes produce a soft and spongy bone, which yields to pressure and to the pulling of the muscles, and in this way causes the deformities. These changes can be seen in the enlargement of the long bones near the joints, the enlargements at the junction of the ribs with the cartilage; also the flat bones of the head show the changes, the edges being roughened and the center thinned. The pathology of the other tissues is that of malnutrition. As to symptoms there is what might be called a prodromic stage, which consists of a series of symptoms dependent largely upon gastro-intestinal disturbances, such as bowel trouble, it may be a looseness or a constipation, flatluence, slight fever, a very irregular appetite, occasionally vomiting, fretfulness, and irritableness. The child does not want to be touched. These earlier symptoms are often attributed to other causes. The real nature of the disease later become plain. Jenner gives three general symptoms of great importance.

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*Read before the Wright County Medical Society, October 5, 1903.

1. A diffuse soreness over the whole body.
2. Slight fever.
3. Profuse sweating about the head.

There is one other symptom that should be added to these, viz., delayed teething, sometimes as late as the fifteenth to eighteenth month.

The flesh becomes soft and flabby and the bony changes take place. The bony changes are usually noticeable, first, in the forearm, leg, and ribs. The lower end of the radius and ulna, also the tibia, are soon found enlarged. The head looks large in proportion, the lower jaw is reduced in size, and as the bones soften, the deformities begin to appear in the form of knock-knee, bow-legs, spinal curvature, pigeon breast, and various other deformities. The fontanelles remain open often till the second and third years. The muscular weakness becomes so noticeable that paralysis may be suspected.

All rickety children are not poor and emaciated; many are as fat as a healthy baby, but very flabby. This condition is seen very often in those cases where the baby is fed on the patent foods and milks. The abdomen becomes larger and protruding. This is caused by the chest being contracted, forcing the enlarged liver down, and also by flatulence and the general relaxed condition of the tissues. Spasm of the glottis, or laryngismus stridulus, is another symptom that often appears, usually in those cases with craniotabes, or thinned skull-bones. The brain being exposed is affected by the slightest pressure, making the patient subject to convulsions and other neuroses.

Rickety children are very sensitive to changes in the temperature, taking cold very easily, and are very liable to bronchitis and broncho-pneumonia. The urine is usually normal with the exception of an increased amount of phosphates.

The prognosis of this disease is good as to life, ninety per cent improving under good treatment. The disease in itself is seldom fatal. In cases that are fatal death comes from laryngismus stridulus, or cranial disease.

The deformities usually remain for life, as evidenced by the deformed and dwarfed seen daily, still there may be improvement in these cases. They are always subject to tuberculosis. The diagnosis is not always easy at the beginning of the trouble. Many cases are overlooked and passed by, being mistaken for some of the troubles that children often are bothered with. Later, when the prominent symptoms appear, the diagnosis becomes easier. Whenever the chief symptoms, referred to above, are found in a fretful child, which is emaciated, with a tendency to enlargement of the ends of long bones, there will seldom be a mistake in diagnosing it as rickets.

The treatment is simple, but not always easy. It can be summed up as good hygienic surroundings and proper diet. Sunshine and pure air have much to do with these cases. These two things wanting will produce an irregular appetite, or may do away with it altogether. So the first requirement is good air and sunshine.

To protect the child from the sudden changes in the temperature, flannel should be worn next to the body at all times.

The next requirement is a good diet containing the necessary elements for growth, namely, fats, earthy salts (chiefly phos. cal.) and proteids. The natural mother's milk meets the requirements for a babe. At times from different causes, a substitute has to be found. Here is where the mistake is usually made, by depending too much upon the patent foods and milks. Good cow's milk can be altered, and made to be the best substitute. In some cases that are well developed, the milk will have to be predigested for a time until the stomach can handle it alone.

As a rule in these cases you will find quite a severe constipation. This will have to be watched. Usually it can be corrected by a little change made in the milk, but occasionally it will require a mild laxative, (aromatic cascara or lac. mag.), as a rule the cod-liver oil, which is invariably given, will soon make laxatives unnecessary. Theoretically, phosphorus is the drug to be given in conjunction with cod-liver oil. Clinically, those that are given the cod-liver oil alone do as well as those that are given the oil and phosphorus together. The syrup lactophosphate of calcium is also highly recommended.

As all rickety patients are anemic, iron can be given to good advantage. The syrup iodide of iron is usually considered best for children. Salt-water bathing with massage is also of assistance.

Another thing to be attended to is the handling of these patients, in order to make the risks of deformity as small as possible. In the first place, they should sleep on an even and firm bed. They should be carefully handled when being carried. Many times you will see the curvature of a spine caused by the mother's carrying the baby with its neck across one arm and the body supported with the other arm. The child should not be urged to walk or move. They will use their limbs as soon as nature has made it safe for them.

REFERENCES
Osler's Practice.
Smith's Diseases of Children.
Loomis' Practice.
Delafield and Pruden's Pathology.

SURGICAL AND MEDICAL EMERGENCIES, AND HOW MET BY THE COUNTRY PRACTITIONER*

By Israel Lemieux, M. D.

RED LAKE FALLS, MINN.

An emergency is generally defined "a pressing necessity." As necessity is the mother of invention, the country practitioner, left to his own resources, will often have to fall back on means provided by kind Nature, which will prove adequate to the case in hand if judicially employed.

An unlooked-for or unexpected complication in the course of labor, or during a surgical operation, or in the treatment of a disease; the lack of proper instruments; or the lack or want of the generally recognized drug to relieve a certain morbid pressing condition in the case in hand, becomes, in my mind, an emergency in medical and surgical parlance. No rules have been laid down, and no rules can ever be made as to how best to meet emergencies, and far be it from any purpose of mine to even hint at establishing any set rules in the premises. But, on the other hand, I will strive to impart to you the line of action I have, I think, successfully followed during thirty years of steady and active country practice, during ten or more years of which I had no neighboring confreres on three of the cardinal points of the horizon, so to speak, and on the other a distance of twenty-two miles to Crookston separated me from the nearest physician, and that with a very primitive method of communication. My rule, if it can be so designated, was this: "Take advantage of the means at hand and act." Do not entertain for an instant the idea that help will come from some unexpected quarter. You are there alone, in cases of emergencies, and on you alone devolves the task to do what is to be done, and by you alone. Learn to place full and entire confidence in yourself; find the best available means at once, and put them into execution instanter. Be convinced and rest assured that not one of your professional brothers, no matter how learned and proficient he might be, would do any better than you are doing under the circumstances. The more adverse these circumstances, the quicker you will have to act. Heroic measures may have to be resorted to. Do not hesitate or procrastinate; act, and sure reward will follow your manly action. The patient may die right there and then, but your conscience will tell you that you were a hero in not permitting any shirking of duty under very unfavorable and sometimes pretty nearly hopeless circumstances.

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*Read before the Red River Valley Medical Society, October 27, 1903.

Good, sound and practical common sense is the only requisite in moments of emergency, taking it for granted, certainly, that the practitioner is not lacking in anatomical and physiological knowledge. Circumstances justifying your actions in emergency cases, will make you feel sure that you are right, and what next? Well, put into practice the old axiom, "Be sure you are right, then go ahead." Yes, go ahead regardless of consequences or results, for circumstances often arise which necessitate certain proceedings, irrespective of the stereotyped situations.

I am not here to dwell upon the many brilliant successes I have scored under the most unfavorable circumstances and surroundings. Neither am I here to expatiate on the many blunders I have committed for the want of coolness; for, in the latter instance, I would have to keep you here all night. Some men are endowed with surprising accuracy of memory, and can give you in a most correct and fluent fashion the names and relative positions and functions of the muscles, arteries, veins, and so forth, constituting the parts which have just been torn asunder in a given case. Yet, these very same men, under trying circumstances and situations, handicapped by lack of their accustomed assistance, instruments, dressing material, and so forth, will lose their self-possession and coolness, and irretrievably blunder.

Here allow me to pay a just tribute to the lamented Dr. Salazar of Mexico, who died on the 25th of August last. I quote verbatim from the New York Sun of the same date:

"Dr. Salazar, physician in charge of the American Hospital in Tampico, has given his life in a brave fight to check the yellow fever epidemic. Dr. Salazar detected symptoms of the fever in himself less than a week ago, but not until the disease had progressed did he relinquish the direction of his staff. Then he turned to studying the state of his own disease, noted every advance, and at last he coolly called for pen and paper and wrote his own death certificate."

Could such coolness be inborn, or was it not acquired by auto-training and daily practice of what moral duty expected of him? A man may possess all the learning that a well-equipped library may contain, and all the erudition attentive observation in the hospital wards may bestow, and yet lack the self-command and self-control necessary to complete success when handicapped by lack of proper instruments or drugs, and especially by the absence of his accustomed lieutenants as assistants with whom he has formed the habit of dividing the responsibility growing out of the case on hand.

My preceptor, Dr. Henri De Lamartelliere, of Chrysostome, Canada, a physician of local reputation, to say the least, had the power of accomplishing an immense amount of work in the shortest possible time, and invariably in his own way. I am certainly to a great extent indebted to him for whatever amount of self-reliance and coolness that have sometimes characterized my actions under very trying and unfavorable circumstances. To illustrate: On February 4, 1887, I received a very laconic message from where is now located the thriving village of McIntosh, a distance of from twenty-five to thirty miles from my office, and about fifty from the next nearest physician, with no railway communication between either points. The message had been given to and handed to me by a teamster coming from Red Lake Reservation. The messenger could give me no detailed information, as the party who had given him the letter could not speak English, and the teamster could not understand Scandinavian. The message in its laconicism ran thus: "Man froze his fingers and toes badly, come immediately." (Signed) John Ulstad, Sec. T. & R. I arrived at the place next day, and found that the accident had happened ten days previously, and that complete and extensive mortification of the four extremities had taken place. Nothing, according to the best of my judgment, short of immediate amputation of the four limbs could save the life of my patient. So, at once, with very poor assistance and very few instruments, the patient emphatically refusing to be anesthetized, I proceeded to operate, amputating at both wrists, performing Chopart's operation on one foot, and amputating the other at the metatarsophalangeal joints. My esteemed friend from McIntosh, Dr. McEachran, tells me that he meets my ex-patient every day, and that the recovery was very satisfactory to everybody concerned.

I am satisfied and morally convinced that next to "Vix Medicatrix Naturæ" the patient owes his life to the quick, opportune, and heroic measures there and then resorted to.

Concluding, I want to say this: Do not accept my ideas, procedures, or theories as orthodox, but remember that in cases of urgent necessity, when the patient's life is in immediate danger you should use instantly the means at hand and which, in your estimation, are the best, without fear of subsequent criticism or disapproval, for the physician or surgeon impliedly contracts, upon his undertaking the treatment of a case:

1. That he possesses a reasonable degree of skill and learning.

2. That he will use reasonable, ordinary care and diligence in the treatment of the case committed to him.

3. And this is the point that in the course of this dissertation I have tried to lay most stress upon, that in all cases where there is room for doubt, he will use his best judgment.

Fear of being accused or indicted, later on, for malpractice should not for an instant enter one's mind, for he is fully protected by law. See Barnes vs. Means, 82 Ill., 379, and Quinn vs. Donovan, 85 Ill., 194.

ABSTRACT OF THE LAW RELATING TO THE POLLUTION OF THE WATERS OF LAKES AND STREAMS*

By Rome G. Brown, Esq.

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The paper opens with the head-line or "text" taken from the 125th Chapter of the Egyptian "Book of the Dead:" "O the One who acts according to his Heart, gone out of Sahon! I did not soil the water."

Then under the head of "The ancient sources of our modern laws against pollution," is the following:

"The laws which govern most of our personal and property rights have shown changes, sometimes very radical, from the laws of earlier times. But it is an interesting and significant fact that even the latest decisions of American courts affirming judgments against offenders who have polluted streams or lakes are based upon certain general principles of law which have always made such acts of pollution both private and public wrongs in the civil and penal codes of all nations, and which have remained unchanged from the earliest forms of written law known in history to the present time. These principles, and the law which arose from them, can be read to-day in the manuscripts which, written in hieroglyphics and pictured in crude outline drawings, were buried with the Egyptian princes who lived, fought, and died upon the banks of the Nile thousands of years before the migration of the founder of Israel into the land of the Pharaohs. To these ancient worshipers of nature the waters of the Nile and of all its tributaries were a divine gift for the use and comfort of man. An individual might own the banks upon the shore and might have certain rights by virtue of his ownership; but the flowing water sent down the streams by the God of the Nile no man could appropriate, divert, or pollute without committing an offense which not only subjected him to punishment under the civil code, but made him subject to condemnation when Osiris, the God of the lower world, should pass judgment upon his soul. And in the negative confession which the departed soul made in the judgment hall of the lower world before the forty-two judges of the dead, no protestation was more repeated nor more emphasized than the one above quoted, which was addressed to the one judge whose sole duty it was to determine whether the deceased had at any time in his life committed the grievous sin of polluting the natural waters of the earth. Carved upon the inner and outer walls of the ancient temple, pictured upon the halls of the dead, the mummy cases and in manuscripts, is found everywhere in the literature of that people the law against the pollution of the waters which nature had provided for man's use and which, in order that man should be protected in the uses for which they were intended, must be kept pure and undefiled. The modern law against the pollution of waters is founded upon these early established principles of the law of waters: (1) That they are nature's gift; (2) that they are given, not for appropriation and ownership, but for the use and comfort of man; (3) that man's right is that only of a usufruct; (4) that in order to protect that use, any pollution must be forbidden."

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*This paper was originally prepared, by request, for the American Water Works Association, and was published by the association in July, 1900. It was recently brought down to date, also by request, for publication in the coming annual report of the Minnesota State Board of Health.

Quotations are then given from the literature and legal codes of the ancient Hebrews and the Romans, and also from the English and American common law; the conclusions from which are summarized as follows:

"It will be seen that, however different in form of statement, the underlying principle which makes the pollution of waters illegal is always the same; that waters are a subject of common use, and that that use must be reasonable under all the circumstances, and must involve as little diminution, diversion or alteration, either in quantity or quality, as is consistent with the reasonable use to which the individual is entitled. Out of this general principle has grown the law of pollution, and it governs the right of the individual in his use of the water, whether that right be as riparian owner for domestic, agricultural, and manufacturing purposes, or whether it be in his use of the stream as a highway or other uses which he has of the water in common with other individuals. It applies as well to those streams which are small and known as private streams, as to those which are large and floatable for logs and ships and which are known as public streams. It applies to all sources of flow and supply, whether it be a lake as large as an inland sea or a natural spring supplying the small tributary which is only one of the thousand feeders of the larger streams below. Moreover, the right of the individual and the community to have a stream remain undefiled is subject to a less number of exceptions than is the right to have the stream flow in its natural quantity and direction. The right of a state legislature to authorize a diversion of the waters in a navigable stream for certain public uses, as against the natural rights of riparian owners, has been upheld; but no such right to authorize the pollution of the waters of either a navigable or non-navigable stream has ever been recognized."

Then follow numerous quotations from the leading text-books upon the subject of waters, water courses and injunctions, showing that the law forbidding pollution of waters is based upon the principles already stated; and showing that in the enforcement of this law the courts apply the well known principle of "reasonable use," which demands that where two have a common right to use the same thing each must so use it as not to injure the use of the other. Quoting from the paper:

"The existence of a remedy in the law for injuries caused by pollution of waters is guaranteed by the fundamental rule that for every injury there is a remedy. This does not mean that, in every case where a person is only slightly damaged by some change in the quality of the flowing water, he will have a right of action. He has a remedy only for the injuria,—that is, for the infringement of his right. His right is governed by the rule of reasonable use; and, as is shown above, whether the change of quality in the water is one which exceeds the bounds of reasonable use is, in each case, a question of fact to be determined from all the circumstances in that case. It is clear, however, that the rule of reasonable use does not protect either an individual or the public in any material or substantial defilement of the waters of a stream naturally flowing past the land of another. The law prevents such pollution not only by individuals, but by communities and corporations, whether private or public; and on the other hand it protects from such pollution not only the individual but a community in general, and corporations, whether public or private, and whether the injury is to the latter's use for private purposes or for public water supply. The civil remedies may be sought and obtained in various forms under the general law of the land, and without statutory enactments. The injured party has a right to recover money damages for injuries which have been occasioned to him by reason of such pollution, and these damages will include all damages which are proximately the result of the pollution. But he is not confined to his action for money damages alone. He will be allowed an injunction against the continuance of the evil, and such injunctions have been granted to prevent the continuance of various forms of pollution."

Next follows a discussion of the cases in which the principles of the law of pollution have been applied by the various courts of the United States against the pollution of waters by manufacturing and mining plants. Possibly the most interesting part of the paper is the discussion of the application of the law against pollution to the cases of discharge of sewage by cities and individuals. Numerous cases are cited, and the law upon this point is shown to be, that, whatever the general authority which cities may have over sewage, there is no implied authority to discharge sewage into fresh water streams or lakes, to the injury either of individuals or other municipal corporations; indeed, that it is beyond the constitutional powers of the legislature to give to cities or individuals the right to pollute fresh waters, to the injury of the public or individuals. This, of course, does not preclude the right of condemnation in which full compensation is made to all parties who are injured by the pollution. The fact that a city has spent large sums of money in improving its sewage system, does not give such city the right to operate that system so as to cause pollution, as against those who are injured thereby. Among the many cases cited and discussed on this point is that of the celebrated Paterson (New Jersey) pollution case where the right of the city of Paterson to empty its sewage into the Passaic River was denied upon the complaint of the riparian owners below, although the city had spent immense sums in constructing its sewage system. The New Jersey legislature had attempted to give the city the right to do the acts complained of; but the power of the legislature so to do was denied by the highest court of that state.

After discussing other sources of pollution and citing numerous cases in which pollution has been forbidden by the courts, the remedies by criminal prosecution are taken up; and it is shown that besides the civil remedies there are in all states, either under special statutes enacted for that purpose or under the common law, remedies for injuries by pollution by means of criminal prosecution.

The subject of "Remedies as between different states and different countries" is fully presented and on this point a summary is given as follows:

"It may be stated as a general proposition that where the acts causing the pollution are done in one jurisdiction and the injuries suffered in another, whether the jurisdictions are those of different states of the Union, or of different countries, there is a well settled right in the injured party to have his remedy in a civil action, to the same extent that would exist as if he were a citizen of the jurisdiction in which the act of pollution is committed. As I have already pointed out, the remedy by criminal prosecution depends somewhat upon the peculiar statutory enactments which exist; but in most instances the non-resident injured party has open to him also a remedy by prosecution in the criminal courts."

On this point the further conclusion is drawn that, in case of pollution occurring in this country by reason of acts committed in another country, there would undoubtedly be a remedy both in the civil and criminal courts of the country in which the pollution was caused. In addition to that it is shown that such cases would be the proper subject of diplomatic interposition by the government in whose territory the injuries were suffered.

In the addenda bringing the paper down to date, are given the leading cases upon the subject which have arisen in the courts during the past three years; and this treatment of the subject is summarized as follows:

"During the past three years attention has been more than ever given by state legislatures, state boards of health, and individuals to the prevention of pollution; and cases bearing upon this question have been before nearly all of the courts in the United States, both federal and state. It is interesting to note that the trend of these recent decisions is to a strict application and enforcement of the principles of law in regard to pollution which are outlined in the above paper. The experience of the past three years in these cases has shown that, as before stated, there is no principle of law which seems to be so well founded and so little susceptible of change and which there is so little liability of the failure of the courts to recognize, as the principle that people have a right to have the waters of lakes and streams kept undefiled for the natural uses to which they are adapted."

A list of the authorities which are referred to in the paper is annexed. Something over two hundred cases are cited and among them are leading cases reported from nearly all the courts in the United States.

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WATER POLLUTION

In this issue of THE LANCET will be found an abstract of a very comprehensive and able paper on the laws of water pollution by Rome G. Brown, Esq., of Minneapolis. The original paper is in pamphlet form, and has already had a wide distribution. Mr. Brown is considered an authority on this subject, having had fifteen years' experience and practice in the law of water-rights. As a general practitioner and as attorney for the St. Anthony Falls Water Power Company and the Minneapolis Mill Company Mr. Brown has had a great deal of experience in water-right litigation, and has been called into many cases involving water-rights all over the country.

Some years previously he prepared, and presented a paper before the American Water Works Association at its meeting at Atlanta, Georgia, on "The Right to Take the Waters of Lakes and Streams for Public Water Supply." This paper was published in Fire and Water, of New York, and afterward printed in pamphlet form for more specific distribution.

This subject is particularly important, as cities, boards of health, and physicians generally are agitating the possibilities of better water supply free from pollution of all forms. The laws on this subject are very clear, yet cities and individuals are constantly violating its injunctions, and the people ignorantly submit to illegal acts that seriously interfere with the health and comfort of the public.

Minnesota is dotted over with lakes from which it is possible to secure a healthful water supply, but the Mississippi river, with all of its sources of infection and pollution, is the favorite stream from which to take our drinking-water, particularly in Minneapolis. It is nearly impossible to prevent pollution entering this river, on account of the many drains poured into it for many miles along its course. With our present knowledge of bacterial life, who can positively assert that dangerous bacteria are not carried unheard-of distances? Cities expend large sums for beauty and adornment, but quibble over water supply, street cleaning, smoke and other nuisances that bring discomfort and disease. Physicians should continue to agitate these subjects until there is a general awakening of the people, and with the law so clearly put before them they have a weapon that cannot fail to command respect where argument will no longer be heard.

AN ANTITUBERCULOSIS CRUSADE

Several months ago a series of papers was presented before the Young Men's Medical Club, of this city, on tuberculosis, its prevention, and cure. A committee from this medical society was appointed to inaugurate a scheme for a crusade, and to gather statistics and histories of all the cases of tuberculosis in Minneapolis. The dispensary of the Medical Department of the State University was made the headquarters for the work. About this time the executive officer of the State Board of Health, Dr. Bracken, through the generous offices of a few women who were philanthropically inclined, secured a nurse to visit the tuberculous poor, and give them immediate attention. The committee of the Young Men's Medical Club and Dr. Bracken joined forces, in order to get the broadest possible results. Then began a more general agitation of the subject, and, as a result of the various conferences, a body of men—laymen, men from the associated charities—and physicians were called together for closer conference. This body held several enthusiastic meetings, and discussed the subject in its various phases, and finally a proposal from the Associated Charities was adopted, and, instead of an antituberculosis league, a separate organization was effected. The organization is to be known as the Department of Tuberculosis of the Associated Charities. The consolidation is effected in order that the affiliation may be permanent as well as more economical than a separate society.

The department is to be under the direction of a committee made up of medical men and laymen. There are to be active and associate members, the former to consist of twenty-five persons, ten physicians and fifteen laymen, four of whom shall be members of the board of directors of the Associated Charities. The associate members consist of persons contributing ten dollars or more for the work of the department. Subcommittees, known as financial, managing, and publicity committees will have full charge of the work. The Associated Charities agrees without additional cost to offer this department the benefit of its organization, employees, records, and information, to provide food for the consumptive poor, and to care temporarily for families in need of relief.

The conduct of the work in the treatment of tuberculosis is always to be upon the approval and under the advice of the active medical members of the department. Treatment of individual cases is always to be under the direction of a physician. The nurses of the Associated Charities will have charge of these cases, and will report all data, conditions, and specific instances necessary for the information of the physicians. It is also planned to begin a campaign of education by lectures and publications, not only to the poor of the city, but for the benefit of the better classes, who are sadly in need of advice and enlightenment. The general plan is patterned after the work of the Associated Charities in New York City, which has been a success. The physicians of New York who are personally interested are men of national reputation, who contribute time and experienced advice. They also interest their well-to-do patients who contribute funds to carry on the work. The same feature will be adopted in Minneapolis in the selection of the committee of twenty-five.

There is every reason to expect a rigorous and persistent effort to control the tubercular subject, to prevent the various means of communication of tuberculosis, and to cure or care for the developed case.

The Board of Charities and Corrections of Minneapolis are looking forward to the establishment of a sanatorium on the work-house grounds. The board of tax levy have been consulted, and are making an effort to secure funds for this purpose. Cottages for consumptives can be conducted and maintained at a moderate cost, and a nucleus for a sanatorium of larger proportions seems a near-by probability. The Department of Tuberculosis of the Associated Charities will be in a position to do effective work in the segregation of tuberculosis.

Some opposition to the general plan was developed, but subsided after the conference. It was maintained that this matter was purely a medical one, and should be under the direction and management of physicians only, and that the Associated Charities was not a scientific body, and knew nothing about tuberculosis, its function being relief only. A mixed committee practically does away with this objection.

The one thing that settled the controversy was the statement of a business man: "Business men are willing to contribute to an organization like the Associated Charities, and would be unwilling to contribute to a new organization that required large sums for organization and maintenance."

The new department will begin its work of organization at once by a meeting of the joint committee, composed of physicians and men from the directory of the Associated Charities.

The Young Men's Medical Club, through its committee, is to be congratulated for the conception of the work.

As soon as the organization is perfected a full explanation of its plans and a list of the committee will be published in The Lancet.

THE DANGERS OF WOOD ALCOHOL

A physician in a small village in Illinois recently had a case of poisoning, resulting in death, from drinking lemon extract, which was taken as a beverage, and presumably because whiskey or other liquor was not obtainable or at hand. A chemical analysis of the extract showed that it contained wood alcohol. A very little inquiry on the part of the physician led to the startling discovery that ten such deaths had occurred in his own and adjoining counties.

If adulteration has produced such results in central Illinois, what may be expected in Minnesota, where we have a very large foreign population working in our woods and mines, and where dangerous adulteration may play havoc for a long time and perhaps on a tremendous scale before it is discovered?

We commend these facts to the consideration of the state authorities, now engaged in a general and commendable crusade against all kinds of harmful adulteration. Where life is threatened, the consequences to the manufacturer are so great that the state only need point out the evidence, and commercial interests, or instincts, will furnish the remedy.

CORRESPONDENCE

Minneapolis, November 7, 1903.

To the Editor of The Lancet:

Your editorial in The Lancet of November first, followed by a letter from "A Graduate Nurse," on the registration of nurses, is an added indication that this subject is arousing the interest of medical workers throughout the United States, and prompts the writer to send to The Lancet a few observations made during a recent visit to the medical institutions of New York City, where a keen interest is being taken in the organization of so-called "State Associations" for trained nurses. Several of the Eastern and Southern states have already established these legalized bureaus of registration; and a review of the constitution and by-laws of the New York State Association, which was adopted at Albany, April 17, 1901, convinces one that membership in such an organization not only does much to establish the standing of a nurse among the members of her own association, but also serves as a passport where state associations have been incorporated.

In keeping with the general trend toward organization in all departments of skilled labor, various societies of superintendents of training-schools and the alumæ of these schools have been formed. These societies have had little more than local influence, and have served mainly to promote the interests of the graduates of the several schools.

Realizing the benefits arising from co-operation and a broader interchange of ideas and methods than the local societies afforded, the American Society of Superintendents of Training-Schools for Nurses was organized, its object being to further the interests of the nursing profession by establishing and maintaining a universal standard of training. This society celebrated its tenth anniversary last month in Pittsburg.

Later, in February, 1897, at a meeting in Baltimore, Md., was organized a society known as the Nurses' Associated Alumnæ of the United States and Canada, whose object is to elevate the standard of nursing education, and protect the financial and other interests of the nursing profession.

Valuable as has been the influence of these societies in elevating the standard and determining the status of the nursing profession, it became evident that not until these associations could gain recognition by the state could a uniform standard of excellence be maintained. Within the past year state associations of nurses in the states of New York, New Jersey, Virginia, and North Carolina have succeeded in securing state legislation to fix a standard of qualification, and provide for a board of examiners. The New York State Nurses' Association was organized in April, 1901, and incorporated by the state in April, 1902, and has been officially recognized in the new law regulating the state registration of nurses.

That the state organizations possess superior value in maintaining a high standard of attainment in the nursing profession cannot be denied; and in all communities where the demand for this skilled service is equal to the supply, the nurse cannot fail to have gained a most desirable degree of personal independence. But however well protected she may be by her membership in this established association, she is constantly brought to face the fact that there is a host of untrained competitors who, in spite of the prestige which her training and registration afford, will give her a hard struggle to maintain her salary and secure steady employment. Particularly is this true of the smaller cities and towns where only those among the most prosperous residents can afford this skilled service.

How shall the differences which now exist between trained and untrained nurses be adjusted?

The present method of registering trained and untrained nurses in the same bureau is an obvious injustice to the trained nurses who have spent so much time and study in preparation for their work; and the most efficient remedy for this unfortunate practice would seem to be for the graduate nurses to establish an independent local bureau and to join the other trained nurses of our state, who are already forming a state organization to secure registration. When this point has been gained there still remains the adjustment of the commercial factor. All graduate nurses must admit that for the vast majority of cases their prices are prohibitive. How shall the patient in moderate or poorer circumstances be cared for?

It was charged by your correspondent, the "Graduate Nurse," that the family physician encourages the untrained nurse. Why? Certainly not because she can do better work, but because the patient cannot pay the salary of the graduate nurse. How shall the services of skilled nurses be brought within the reach of the patient in moderate circumstances? As the commercial factor is the determining influence in the employment of unskilled service generally, the untrained nurse will continue to be in demand until this essential has been regulated. May not the combined efforts of these state organizations be directed toward devising some means for the establishment of a scale of prices which shall bring skilled service within the reach of all, and ultimately require all candidates for this profession to take that prescribed training which alone qualifies them for their work?

Marion A. Mead, M. D.

Former Physician-in-Charge and Superintendent of the Training-School for Nurses, Northwestern Hospital, Minneapolis, Minn.

REPORTS OF SOCIETIES

MINNEAPOLIS PATHOLOGICAL SOCIETY

Wm. Chowning, M. D., Secretary

Stated meeting, October 19. Dr. L. B. Wilson, president, in the chair.

The annual election of officers resulted as follows: President, Dr. S. M. White; secretary and treasurer, Dr. Wm. Chowning.

Dr. A. W. Abbott presented reports of three cases as follows:

1. Cirrhosis of the Liver.
2. Multiple Abscess of Liver and Lung.
3. Multiple Cysts in Left Ovary.

The following are abstracts of two of Dr. Abbott's reports:

MULTIPLE ABSCESS OF LIVER AND LUNGS FOLLOWING INFLAMMATION OF BILE PASSAGES WITH STONE IN GALL-BLADDER AND COMMON DUCT

Aug. 15, 1903, Mrs. S——, aged 59; 13-para; very short and obese. For eighteen years she has had occasional sharp pains in region of gall-bladder; for five years slight jaundice at frequent intervals. For five months pains have been more violent, and for the last month she has had some fever; for the last week an increasing jaundice, which is now very marked, with constant pain all over liver and sharp pains in left lung and both shoulders. For the last three or four weeks she has had marked chills nearly every other day, followed by hot skin and sweats.

Diagnosis: Stone in common duct and cholecystitis.

Admitted to hospital Aug. 18, 1903.

Four p. m., after severe chill temperature 103.5°. Temperature then subsided for a few days to about 101° for several evenings, when the chills returned and temperature rose. On the temperature again going down, a stone at the bottom of the gall-bladder and one in the common duct were removed. The adhesions about the region were more dense than any before encountered by the writer. The ileum had adhered to the liver over the gall-bladder, and the only distinguishable part of the gall-bladder was a cup-like thickened mass on which the stone rested. The stone in the common duct could be freely moved up and down for one inch. The stone was facetted although there was no other stone in the duct. After the operation the condition remained about the same as to chills, but the temperature gradually got higher with wide variations, generally 99° to 100° in the a. m., and 105° to 106° in the p. m.

The patient died comatose on the tenth day after operation. On admission to the hospital the urine contained much bile, albumen, and granular and hyaline casts. Blood examination showed 64 per cent hemoglobin and 12,000 white blood cells; no plasmodia.

Post mortem.—Some pus in the drainage track; dense adhesions over upper part of intestines; a fold of omentum was drawn upon the surface of the liver almost reaching a superficial subperitoneal abscess on the convexity of the left lobe. The liver, aside from this abscess, presented nothing abnormal in size, and was only a little darker than usual. On section three abscesses, the size of small hen's eggs, were found scattered through the organ. One of these appeared quite old and cheesy.

In the left lung several small abscesses were found in the lower lobe.

The pancreas presented nothing abnormal, and there was no fat necrosis.

The kidneys were dark and soft, but not very large.

The microscopic appearances are as follows:

Liver shows pressure effect from the abscess. The cells narrowed and compressed close to the abscess, while at a distance the biliary passages show dilatation.

The pancreas shows round-celled infiltration, and an appearance in the tubules reminding one of cloudy swelling in the kidney. The ducts show dilatation.

The splenic vessels are thickened. There is a perivascular leucocytosis. Scattered through the organ are masses of wavy fibrous structure to which I invite your attention.

MULTILOCULAR OVARIAN CYST, TWISTED PEDICLE, EDEMA OF SAC WALL, AND HEMORRHAGE INTO LOCULI, WITH FEVER BEFORE OPERATION

This case illustrates one cause for twisted pedicle, also that the temperature in these cases is not always due to the toxines of bacteria.

Patient 27 years old; single, menses always regular up to Aug. 28, 1903, then flowed for two weeks freely, no flow since. Ten days ago violent pain for three or four days on left side. For ten days her temperature has ranged from 101° F. to 103°; bowels open; urinates freely. Ordinary waist measure 23 inches, now 32 inches. Three weeks ago noticed no change in tightness of ordinary clothing.

Physical examination: Nodular fluctuating tumor, extending from pelvis over retroflexed uterus to four inches above umbilicus.

Blood examination: red, 3,100,000; white. 16,500; hemoglobin, 45 per cent.

Operation Sept. 17, 1903. Multilocular ovarian cyst of left side of about 12 lbs. weight, containing in various loculi about three quarts of dark thin blood. Shape of cyst, a long oval with the long diameter as it lay in body parallel with median line; lower end deep in pelvis, upper end lying on stomach. On lifting out of the body the pedicle was found long and twisted one-half a circle. There was about a pint (estimated) of free bloody serum in the abdominal cavity. The twist in the pedicle was enough to largely shut off the venous return, producing the intra cystic bleeding and edema, but not enough to produce necrosis. The pedicle is situated much nearer one end than the other. There is not much question but that this one-sided position of the pedicle with the greater leverage and weight on one side has much to do with the rotation of the tumor in conjunction with the frequent changes in position of the individual, and the varying distention of the bowels, stomach, and bladder. These factors afford a much more plausible explanation, not only for the rotation, but also for the direction of the twist than the many which have been advanced.

In removing this tumor the very friable wall broke, and let about a quart of the dark contents of the tumor into the abdomen. You will remember that the temperature before the operation was 103.4°. The abdomen, after the removal of the tumor, was simply sponged out, neither washed nor drained. The patient is making as favorable a convalescence as I have ever seen. If the temperature was due to micro-organisms it would seem that under the circumstances the peritoneum would have been infected.

I showed the society an exactly similar case a year ago with temperature 104° just before operation, with the same immediate good result from removal. We see the same thing in pelvic hematocele and clots in wounds, although such conditions do not afford positive proof, as do cases like the ones cited.

What the poison is that makes the temperature, is, I believe, as yet undiscovered.

The kidneys show especially epithelial swelling in the tubules.

BOOK NOTICES

The Treatment of Fractures. By Charles Locke Scudder, M. D., Assistant in Clinical and Operative Surgery, Harvard University Medical School; Surgeon to the Out-patient Department, Massachusetts General Hospital. Third edition, thoroughly revised, with 645 illustrations. W. B. Saunders & Company, Philadelphia and London.

The third edition of this well known work has given the author an opportunity to thoroughly revise the text and make valuable additions to the illustrations. Some new matter on gun-shot fractures gathered from the reports of the war in South Africa is added with cuts which show the effects on bones of small-caliber bullets.

The use of plaster-of-Paris is fully explained and illustrated. The value of the *x*-ray in diagnosis is thoroughly discussed, and the errors of interpreting the picture brought out.

The book is well gotten up, with large clear type on good paper, but its best features are its concise way of bringing out the essentials and the illustrations. Photographs and skiagraphs are freely used, and the 645 illustrations in 470 pages would certainly enliven a less readable text.

A DICTIONARY OF MEDICAL SCIENCE. Containing a full explanation of the various subjects and terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, Medicine, Hygiene, Dietetics, Bacteriology, Pathology, Surgery, Ophthalmology, Otology, Laryngology, Dermatology, Gynecology, Obstetrics, Pediatrics, Medical Jurisprudence, Dentistry, Veterinary Science, etc., by Robley Dunglison, M. D., LL. D., Late Professor of Institutes of Medicine in the Jefferson Medical College of Philadelphia. New (twenty-third) edition, thoroughly revised, with the pronunciation, accentuation and derivation of the terms, by Thomas L. Stedman, A. M., M. D., Member of the New York Academy of Medicine. In one magnificent imperial octavo volume of 1224 pages, with about 600 illustrations, including 85 full-page plates, mostly in colors, with thumb-letter index. Cloth, $8.00, net; leather, $9.00, net; half morocco, $9.50, net. Lea Brothers & Co., Philadelphia and New York.

He who has only one English dictionary, is, indeed, but an indifferent student of English, whether he has Webster, the Standard, or the Century. And the physician who has only one medical dictionary is but indifferently equipped for his work. To the man who is willing to possess two medical dictionaries, we unhesitatingly advise that one of them be Dr Dunglison's, and this advice is based upon a pretty thorough knowledge of medical dictionaries, and of the shortcomings of men who make medical literature. We find at hand a very good illustration of the last point. In a single page of manuscript before the writer occur these three terms,—*apoplexia*, *retroversion uteri*, and *syrup prune virginianae*.

How should they be written? Dorland does not tell, and Gould gives only the first term; but Dunglison gives all three. The first is correct; the second should be *retroversio uteri*; and the third should be *syrupus pruni virginianae*.

It may be urged that "one swallow does not make summer," and that one illustration does not prove a case. Granted that it be so, but any one who edits medical copy will testify, we think, that he must go to more than one dictionary to find the information he needs almost daily in his work; and surely one less versed in medical words and terms will feel the same want.

Dunglison's dictionary has been a standard for a good many years, and the twenty-third revised edition is a book to be commended in the highest terms to both practitioners and students.

Its page is practically the same size as the page of Gould, but because of an almost total absence of padding, and especially because of the conciseness of its definitions, it is one-fourth smaller, which is a good feature.

It is the opinion of THE LANCET that it is the best dictionary we have, and that no practitioner or student should be without it.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. For Practitioners and Students. A Complete Dictionary of the Terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the kindred branches, including much collateral information of an encyclopedic character, together with new and elaborate tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Micrococci, Streptococci; Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc., etc. By W. A. Newman Dorland, A. M., M. D., editor of the "American Pocket Medical Dictionary." Handsome large octavo, nearly 800 pages, bound in full flexible leather. Philadelphia, New York. London: W. B. Saunders & Company, 1903. Price, $4.50 net; with thumb index $5.00 net.

THE AMERICAN POCKET MEDICAL DICTIONARY. By the same author and publishers. Flexible leather, with gold edges, $1.00 net; with thumb index, $1.25 net.

THE LANCET noticed about a year ago at considerable length and in detail Dr. Dorland's dictionary, and the appearance so soon of a third edition shows quite conclusively that our high estimate of the merits of this dictionary was justified. We spoke of the limitations of the work, but in spite of all it was pronounced the best medical dictionary for all-around purposes then published. The profession will welcome a new edition, with the necessary additions of new terms, amounting in so short a time to several hundred.

The pocket edition is worthy of the highest commendation, for it is a remarkable piece of condensation, containing almost as much as the larger dictionary. One is the complement of the other; and with one in the office and one in the home, the physician need never pass over words whose meaning he does not understand, or write words whose meaning the other fellow will not understand.

NEWS ITEMS

Dr. S. B. Shaw has located at Williston, S. D.

Dr. S. Rainville has located at McKinley, N. D.

Dr. J. H. Williard has resumed practice at Lewiston, Mont.

Dr. John Sinclair has given up practice at St. Thomas, N. D.

Dr. D. K. Caldwell, a Hamline graduate, has located at Milaca.

Dr. W. J. Kelmann has moved from Henderson to Newmarket, Ontario.

Dr. Adams Lyons, of Pine City, has established a hospital in that place.

Dr. J. S. Davis, of Hot Springs, S. D., has located in Granville, N. D.

Dr. D. E. Arnold, of Heckla, S. D., has moved to Aberdeen, in the same state.

Dr. L. C. Smith, of Dickinson, N. D., has established a hospital at that place.

Dr. C. B. Wright, a graduate of Johns Hopkins, has located in Minneapolis.

Dr. F. H. Fowler, of Anamosa, N. D., has decided to locate in Minneapolis.

Dr. Wm. Scanlan, of Page, N. D., has gone to New York to do post-graduate work.

Dr. T. G. Matthews, a leading physician of Montana, died at Miles City, last month.

Dr. J. R. Ashburn, formerly at Fort Crook, Neb., has been transferred to Fort Lincoln, N. D.

Dr. Archibald McEachran, who practiced over a dozen years in McIntosh, has located in Minneapolis.

Dr. George W. MacMurphy who only recently located at Ortonville has been elected mayor of that place.

Dr. Oscar Stenberg, of North Branch, was married to Miss Stella M. Boswell, of the same place, last month.

Dr. J. W. Burchard has moved from Wilmot to Bradley, S. D., taking the practice of Dr. Brown of the latter place.

Blackduck, a comparatively new town in northern Minnesota, has a new hospital, of which Dr. E. S. Fowler has charge.

Dr. David A. Pease, of Twin Bridges, Montana, died last month at the age of 72. He had practiced medicine at Twin Bridges for twenty-two years.

Dr. C. B. Heimark has moved from Battle Lake to Fergus Falls. Dr. Heimark had practiced several years in Battle Lake, and left a large practice.

Dr. George J. Hawley, of St. Paul, has returned to Roseau, where he was formerly located. Dr. Hawley is a graduate of Bellevue, and has taken extensive post-graduate courses in New York and at Johns Hopkins.

Hoquiam, Washington, has a fine new hospital, commodious and modern in every respect. It contains two wards with twenty-five beds, and has sixteen private wards. It was built by Drs. Johnson & Wells of Hoquiam and Dr. Paul Smith of Aberdeen, Wash.

Dr. A. W. Guest, of Erie, N. D., has been appointed assistant physician of the Asylum for the Insane, at Jamestown, N. D., to succeed Dr. Baldwin, who was appointed superintendent of the new School for the Feeble Minded as has been noted in these columns.

The names of the following Northwestern physicians appear upon the program of The Western Surgical and Gynecological Association, which meets at Denver on the 28th and 29th of this month: Dr. W. E. Ground, West Superior; Dr. A. E. Benjamin and Dr. J. E. Moore, Minneapolis; Dr. J. W. Andrews, Mankato; and Dr. C. H. Mayo, Rochester. Dr. J. E. Moore is chairman of the Executive Council.

FOR SALE

Surgical and gynecological table in good condition—wooden, with good cover, adjustable head and foot-rests, and one drawer. Price, $10.00. Address B. E. Lord, M. D., Henderson, Minn.

PRACTICE FOR SALE

A good physician (regular) with some money, desiring a first-class opening, can learn of one by immediately addressing G, care of THE LANCET.

WANTED—A physician to call on doctors and dentists in the interest of manufacturing chemist, but not to sell anything, with headquarters in Minneapolis or St. Paul. Good salary. State age, and whether married or single. Address O, care THE LANCET.

INTEREST IN HOSPITAL FOR SALE

Being obliged to go to a milder climate, I wish to sell my business. The hospital is located in a N. D. village of 1,000 inhabitants, with a large contributary territory and two railroads. Myself and partner are the only physicians in the village, and we have the railroad, county, and village work. The hospital has 20 beds, and cost $16,000. I own $3,000 of the stock and one-half interest in the furniture and fixtures. I offer all this with by 5-room house which is steam-heated, and has hot and cold water, bath, etc., for actual cost, or about $8,000. The practice of the firm and hospital business amount to $20,000. The purchaser must be a surgeon of some experience. Address S, care of LANCET.

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A PLEA FOR CHILD-BEARING WOMEN*

By William E. Ground, M. D.

Member of the Western Gynecological Society

SUPERIOR, WIS.

It is not my intention to dwell upon well established practices, but what I have to say will deal exclusively with some phases of the obstetric art neglected by the majority of accoucheurs, my remarks being suggestive rather than exhaustive, indicating points that should receive more consideration at the hands of the practicing physician than is usually given.

It has occurred to me many times that the mothers of past and present generations have not and do not now receive the attention due them.

Medical science has made marked advances along all lines, but it has benefited the child-bearing woman as such very little. Modern investigations have shown the cause of much of the morbidity and mortality of pregnant and puerperal women, but except in isolated cases and in well equipped and scientifically conducted hospitals, this knowledge does not avail her much. As a rule the same indifference to her condition when pregnant, parturient, and puerperal still remains. If a physician ever can render assistance, assurance, and comfort, it is to women during pregnancy and parturition. I do not believe in mixing sentiment with the practice of medicine, but what is more touching than the appearance in your office of a young woman pregnant for the first time? She is in a condition of timidity, fright, and suspense, and she has come to you for advice and protection from the risks and dangers she has assumed in attempting to add her mite to the propagation of the human race. Now, what is our duty in such instances? Is it merely to assure her in an off-hand way that she will be all right, and to get her name and address, and tell her to call us when labor sets in? This is all and even more consideration than most women get. Many perhaps do not need more, but we cannot deny the fact that many do. We are likely here to lose an opportunity to give comfort and assurance, which is certainly no small part of our mission, and to render a trying ordeal less trying.

As evidence of the importance of this subject I quote from an eminent authority. Hirst (American Medicine, Nov. 29, 1902) says:

"If any one physician in general practice calculates the number of cases he sees in a limited time of rectocele, of cystocele, of uterine retroflexion originating in the puerperium, of injured cervix and all its consequences including cancer, of prolapsus uteri following child-birth, of subinvolution and endometritis following abortion or labor, of pelvic inflammation, of puerperal infections, of splanchnoptosis following diastasis of the recti muscles, and of coccygodynia; if he multiplies his experience by that of the thousands of his colleagues in America, if he reflects that everyone of these conditions represents the fault of a physician, that every one of them could have been prevented, or could have been cured without delay, he must be appalled by the thought that the medical profession itself is responsible for five-sixths of the diseases of women as we see them to-day. We are accustomed to think of the control of contagious diseases, of the limitation of tuberculosis, of the prevention of enteric fever, of the cause and cure of cancer, as the great medical problems of the present time. These questions sink into insignificance when compared with the preservation of the health and the usefulness, the fertility, and the happiness of our child-bearing women. Moreover, this question concerns us closely. We are not directly responsible if a municipality compels its citizens to drink dilute sewage. We cannot be reproached because the self-sacrificing medical scientists of the world have not yet discovered the cause of cancer. But we are too often responsible for the vast number of invalid women who owe their incapacity and suffering to child-birth, and for the thousands of women who refuse or are unable to bear more children because the birth of one was so disastrous to them. This is our fault, or rather the fault of the crude teaching and practice of obstetrics in America. There is not one of the consequences of child-birth enumerated that cannot be prevented or cured before it has affected the individual's health.

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*Read before the Douglas County Medical Society, July 7, 1903.

"Every woman should be subjected to three examinations after labor. One immediately or within forty-eight hours to detect the injuries of child-birth; the second before she leaves the room, to determine the position of the uterus; the third at the end of the puerperium, six weeks after labor, to observe the condition of all the pelvic organs and structures, of the abdominal walls and coccyx, and the position of the kidneys. If the rule were uniformly followed we might escape the responsibility which undeniably rests upon us now, for a great part of the invalidism of American womanhood."

Such is the castigation given to the medical profession by Dr. Hirst, on a doubly vital subject. Whether or not the charges are true I will not attempt to decide except for myself. You will do the same. Admitting the truth of at least much that he says, let us see what can be done to better the conditions.

At the outset I will admit the problem to be a difficult one. The practice of obstetrics remains to-day very largely in the hands of the midwife, a large proportion of the people believing that all the requirements have been fulfilled when the cord has been tied and the after-birth delivered. The fact that a delivery at term is so nearly a physiological process makes this possible. But complications before, during, and after labor, do occur, and the fact that two lives are at stake instead of one, as is usually the case, makes it all the more important that the practice of obstetrics should be rescued from a position little better than was surgery in the time of the barber surgeons. The average midwife is an uneducated, uncouth, and dirty individual, who for a small fee goes about infecting parturient women. Statistics seem to prove that puerperal sepsis is now as frequent a complication as in pre-antiseptic days. This is largely due to the midwife, as it is in those localities where she holds sway that infection is most observed. Every case of aggravated puerperal sepsis I have seen has been infected by a midwife. If a woman prefers to be attended by a woman, let her employ a regularly educated woman physician. The whole midwife proposition is wrong, and should be done away with, and no person be allowed to attend a woman in confinement who has not received a regular medical education. The practice of obstetrics is the practice of surgery, and surgeons are made, not born. While I believe the midwife is largely to blame for the majority of the cases of sepsis, we must not get the idea that we are beyond the possibility of carrying infection.

Another factor which materially interferes with the progress of obstetric medicine, is the absurdly small fees charged by many physicians—fees little in advance of those charged by the midwife. This re-acts on the practitioner in two ways: First, by lowering his services in the estimation of his patients, and, second, by encouraging slack and hurried work on his part. A liberal fee should be charged, this to include careful investigation of every pregnant woman's pelvis and her general condition in the early months, regular biweekly urinary examinations during her pregnancy, and an investigation as to the position of the child, etc., at the last of the term, and finally the attendance at a normal labor. If instrumental or operative interference is necessary an extra charge should be made. This would get this department of medicine above the plane of empiricism, where it would command the best skill in the profession and where men could afford to give these cases the time and consideration they so justly deserve. I hear someone say that many can't afford such a fee. Of course I will admit that to be true in some cases, but it is not often outside of large cities that people are too poor to pay a reasonable fee, and in large cities there are institutions to which such cases can be sent, or competent physicians provided at public expense; if there are no competent physicians, it is the fault of our medical colleges. As a purely cold-blooded money proposition it would be eminently cheaper for a woman to be properly cared for at her confinement than to pay a gynecologist several times a liberal obstetric fee a few years later to correct damages left unrepaired, to say nothing of the suffering and incapacity endured by the woman, and the impossibility of making as good a correction as could have been made soon after delivery. In a business way it would simply transfer fees usually collected by the gynecologist to the obstetrician.

Now, having established a business plan commensurate with the importance of the occasion, let us see how much good we can do our patients, and how much value we can put into our services. Let us be perfectly honest with out patients and with ourselves, obtain the best information within our reach, and do our best. This, in my humble way, I have attempted to do.

We will first consider the pregnant woman from an antepartum standpoint.

The history of the mother is important, especially that of her infancy and early life. It is now well known that pelvic asymmetry is of much more frequent occurrence than was formerly supposed, and that the foundation of these conditions is laid in infancy and childhood. Therefore a knowledge of these periods of life is essential. A woman who in infancy was fed on artificial foods, was the subject of infantile diseases and a stormy childhood, under poor nourishment and subjected to improper sanitary environment, will be more likely to have a pelvis lacking in symmetry than one whose mother was able to nurse her, and who had a healthy childhood. Until the last few years little attention was paid to the physical development of infants and children, and, as a consequence, we now have a crop of mothers whose physical deficiency makes pregnancy often very trying and distressing, and labor often not a natural process, but a work of art, full of sorrow and complications.

Owing to the lack of time I shall refer very briefly to the subject of contracted pelvis. While it is probable that high degrees of pelvic contraction are not frequently observed, it is a fact that lesser degrees are frequently found. Asymmetry to the extent of materially interfering with the mechanism of labor, is estimated as follows: Reynolds of Boston reports about two per cent, Crossen of St. Louis, eight per cent, and Davis of Philadelphia, twenty-five per cent of contracted pelves in a large number of pregnant women examined. J. Whitridge Williams says: "Since the opening of the lying-in department of the Johns Hopkins Hospital it has been our rule to measure both internally and externally the pelvis of every pregnant woman who comes into our hands. In June, 1899, I reported that we had met with one hundred and thirty-one contracted pelves in the first one thousand women delivered. In June, 1901, I gave the results obtained in eleven hundred and twenty-three additional cases, which showed exactly the same per cent as in the previous report. Thus a total of twenty-one hundred and thirty-three cases gave a per cent of 13.1." Williams further says: "It is essential that the obstetrician be able to diagnose the existence and extent of the conditions before the onset of labor, in order that he may as far as possible decide in advance upon the proper line of treatment to be executed in each case. With this object in view accurate pelvic measurements should constitute an integral part of the preliminary examinations of pregnant women, and in the present state of our knowledge a physician who practices obstetrics without pelvimetry must be regarded as no better than one who treats diseases of the heart and lungs without the aid of auscultation and percussion."

Pregnant women are subject to all the acute diseases that non-pregnant women are subject to, with added risk and frequent premature delivery.

Typhoid fever is a dangerous complication of pregnancy. Fetal mortality occurs in about 70 per cent of cases. The same may practically be said of pneumonia, influenza, scarlet fever, measles, smallpox, erysipelas, and gonorrhea. Chronic diseases of the heart, lungs, kidneys, brain, and in fact all the organs are influenced in a deleterious manner by the occurrence of pregnancy.

Many women suffering from pulmonary tuberculosis seem to improve during pregnancy. Doubtless the stimulated nutritional activity holds in abeyance the progress of the tubercular invasion, but soon after birth rapid advance of the disease is noted, and the fatal termination hastened. Tuberculosis does not seem to increase the predisposition to abortion, and frequently well developed and apparently healthy children are born of tubercular mothers. It is very rare for tuberculosis to be transmitted directly to the child.

Syphilis is one of the most frequent causes of fetal mortality, and frequently aborting women should be suspected of being syphilitic, and treated accordingly.

Valvular disease of the heart is a very serious complication, especially with failing compensation. Guerard considers cardiac disease as dangerous as eclampsia and placenta previa. Premature delivery occurs in about 20 per cent.

Chronic nephritis is another serious complication, and while not necessarily tending toward eclampsia, uremic toxemia often results.

Appendicitis occurring during pregnancy should receive prompt operative interference.

Besides the aggravation of pre-existing disease and the simultaneous occurrence of acute diseases and accidents, the pregnant woman is subject to conditions of a pathological nature peculiar to her state. Among the most important of these are the toxemias of pregnancy, the exact nature of which we do not clearly understand; but enough is known to enable us to recognize the condition in time to prevent disastrous results. Suffice it to say it is a bounden duty of every physician entrusted with the care of a pregnant woman to be on the look-out for danger signals, as it is only by the early recognition of these that she can be guided with safety.

In order to apprehend eclampsia, physicians too frequently rely on finding albumin in the urine, overlooking certain well defined pre-eclamptic signs of more value, for when eclampsia is well established it is the beginning of the end, and it is too late to administer efficient treatment. Eclampsia is due to an auto-intoxication, and is preceded by well defined symptoms. These symptoms are not confined to kidney manifestations, although the urine affords valuable evidence of deficient elimination. Lack of excretion and incomplete metabolism in the mother and child produce toxins which manifest themselves in headache, dull or severe, often a band-like sensation around the head, soreness about the orbits, blurred vision with flashes of light and specks before the eyes, and sometimes blindness. The patients may become dull, and may lose interest in things, or they may be the subjects of rage and irritability. In some cases the gastro-intestinal symptoms are most marked, being pain in the pit of the stomach, nausea and vomiting, especially in the later weeks and after the reflex vomiting of the first months has ceased, usually indicating the inability of the excretory organs to throw off the poisonous products.

Renal manifestations are almost invariably present, not in the form of albuminuria always, but the urine is of low specific gravity, containing a small quantity of solids and a low percentage of urea. The renal disease may be caused by the toxemia or by the exaggeration of a pre-existing nephritis. At any rate the urine carefully studied forms a reliable indication as to the capacity of the essential excretory organs, the kidneys.

Hemorrhages.—Many women and some physicians consider a slight discharge of blood from the vagina, or blood stained mucus after the beginning of pregnancy, as nothing abnormal. This symptom should always be carefully investigated, as it means a pathological condition of more or less gravity. It may indicate a threatened miscarriage, a tubal pregnancy, or a placenta previa. It is only by the timely apprehension of these complications that the safety of the mother can be assured.

Position and Presentation.—It is necessary to note the position, condition, and presentation of the child, and to this end an investigation should be made in the seventh month, and every two weeks thereafter until the termination of pregnancy. At the seventh month, in case of breech presentation, there is yet time for spontaneous version to occur. If, however, a breech presentation remains to within ten days of the expected delivery, it is better to attempt cephalic version by external manipulation than to allow labor to proceed with the added risk to child and mother, which such a presentation carries with it. Unless in extreme conditions of hydramnios, an exact knowledge of the position of the child should be ascertained by the time labor sets in.

Dystocia.—The possibilities of the dystocias should always be borne in mind. Atresia of the vulva or vagina, either cicatricial or due to edema, hematoma, or neoplasm may interfere with labor. Rigidity of the cervix may amount to a dystocia, especially in elderly primiparæ, and from cicatricial formation. Uterine malformations and displacements often act as an impediment. Adhesions of the uterus to the abdominal wall, as might result after a celiotomy, have given rise to dystocia. Within the last few years a new form of dystocia has been added to the list, namely, that due to the various operations for uterine deviations, especially those in which the principle of fixation has been utilized, as in the type of ventrofixation of Kelly and the vaginofixation of Duehrssei and Mackenrodt. Dystocia may be due to tumors of the pelvis and generative tract, especially uterine myomata, ovarian and dermoid cysts, etc.

With but few exceptions the women I have attended in confinement during the last few years, have come to me early in their pregnancy, and I have observed them throughout, so that, at the time of their delivery, I had a pretty good understanding of my patient and she of me, the latter of which is no unimportant matter. I gain her confidence and obedience absolutely, or else I retire from the case. She knows I am acting for her immediate as well as ultimate benefit, and accordingly follows my advice to the letter. When the time approaches for delivery a sterilizer is sent to the house, and night-gowns, sheets, towels, and gauze vulvar pads are sterilized by a competent nurse. At the onset of labor the woman is given a hot bath, the rectum is emptied by enema, and the nurse, after a surgical cleansing of her own hands, cuts short or shaves the pubic and vulvar hair. The external genitals, lower abdomen, and inside of the thighs are thoroughly scrubbed with a piece of sterilized gauze, using boiled water and tincture of green soap, and the whole rinsed with a lysol solution. Care is taken not to go beyond the labia with these preparations. With my hands properly prepared I then make my first introvaginal examination. Vaginal examinations are limited to the fewest possible number and then under the strictest aseptic precautions in the way of self-preparation, either in the shape of rubber gloves or the efficient antiseptization of the hands. For clean work I rarely use gloves. I never allow pus or infected material to come in contact with my hands if possible to prevent it, and it almost invariably is as I always have rubber gloves within easy reach while doing my routine surgical work. My surgical and obstetric nurses are not allowed to attend contagious or infected cases, but if it should happen that the nurse has had the care of a septic case, a thorough cleansing process is gone through before she is given a clean case.

My rule is to secure surgical cleanliness for myself, nurse, and patient, and maintain this condition, and after informing myself as to the exact status of the patient, leave her to the tender mercies of nature until interference or assistance is called for.

This talk is elementary, I admit, but I wish to show under what régime these cases are conducted, that I may be able to call attention to the condition in which we find the woman after delivery, that is, the best possible condition to enable us to carry out any surgical manipulation deemed necessary.

Finally, a feature that is frequently neglected is the postpuerperal examination. It is not enough to see that a woman is safely delivered and that she escapes infection, but that she is left in a condition to suffer no ill after-effects from her confinement.

In the investigation of gynecological cases the frequency with which women date their illness from pregnancy and delivery must strike in a very emphatic manner every thoughtful observer. Even after the infections have been eliminated, the patient will tell us that she suffers discomfort in the lower abdomen, and pain and uneasiness about the pelvis, that she has a profuse leucorrhea, perhaps blood stain, backache, bearing-down sensations, falling of the womb, dyspareunia, irritable bladder, and pain on urination, constipation and piles and difficult defecation, is nervous and irritable, is thin, emaciated, and scrawny. All of these things mean something, and the physician is not doing his duty if he ignores them. If we investigate these cases closely we shall probably discover a relaxed pelvic floor, a prolapsed and gaping vaginal outlet, a dark redness of the vaginal mucous membrane, and a heavy subinvolution of the uterus, which is due either to an unhealed cervical laceration or to a retrodisplacement and sagging into the hollow of the pelvis.

After immediate repair of perineal lacerations it is necessary to observe our patient for a month or two. There should be an examination in four to six weeks to ascertain if the pelvic floor has sustained injury that has not been repaired, and to what extent this exists, and to see if there is any tendency to retrodisplacement, as well as to observe the condition of the cervix and to estimate the process of involution in the uterus.

In reference to retrodisplacements I wish to say that if a woman is known to have a retrodeviated uterus before labor, it can be very effectually treated by not allowing the woman to lie on her back during her puerperium, and in addition by placing her during three or four weeks in the knee-chest position and applying ichthyol and glycerine tampons every other day, and by not allowing her to hang heavy skirts about her waist. The prevention of post-puerperal retroversions can be accomplished by compelling the woman to lie on her side after the first forty-eight hours.

It is certain that the vast majority of women suffer more or less inury to the pelvic floor that is not and cannot be repaired by immediate suture, so that all the ill effects of pelvic herniation are liable to manifest themselves unless close observation is maintained for a few months after delivery. Should defects exist, they should be repaired at once, and not be allowed to go on until the woman is invalidized.

MODERN RENAL SURGERY*

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MINNEAPOLIS

When requested by your worthy secretary to read a paper at this meeting I suggested this subject as one likely to be of interest to an audience consisting largely of general practitioners, because it is to the family physician that patients suffering from kidney ailments first come. The physican who knows the limitation of medical treatment in these cases, and who knows what the surgeon has to offer for their relief, is in a position to do his patient the greatest possible good and himself the most credit.

Since the dawn of Listerism surgery has gradually been extended to every organ of the body, so that none are now neglected. The kidney, being so deep-seated, so vascular in construction, and so vital an organ, was one of the last to attract the surgeon. As long ago as 1869 the kidney was removed just as limbs were amputated for compound fractures in those days, but it is within a very few years that conservative, life-saving operations upon this organ have become established surgical procedure. Happily, at the present day the surgeon can often promise speedy relief at a time when the physician feels that he has exhausted medical resources, and that something else must be done to relieve his patient's suffering or to save his life.

The most recent advance in the surgery of the kidney is the operation for the relief of chronic Bright's disease or chronic nephritis. While I am satisfied that this will eventually become an established surgical procedure, it is not yet on a sound basis, for we do not know its limitations for good or ill. The limited experience surgeons have had teaches them that they have some hope to offer in these otherwise hopeless cases, and they are only waiting for the co-operation of physicians to gain sufficient experience to enable them to determine what class of cases can be benefited, and whether the temporary benefit, which they have unquestionably derived from this operation, is permanent enough to justify the risk necessarily accompanying it. The most recent article upon this subject is that of Guiteras in the New York Medical Journal of Nov. 14, 1903. He has collected 120 cases, which have been sufficiently studied to enable him to draw some conclusions. Of these 120 cases 16 per cent are reported cured, forty per cent improved, eleven per cent unimproved, and thirty-three per cent of deaths.

The operation consists in cutting down to the kidney through the loin and removing its capsule, after which it is either dropped back into its natural bed of fat or attached to the wound in the muscular tissue, the former being the procedure most frequently adopted. The theory is that the removal of the contracted capsule will so relieve the pressure in the kidney that its circulation will be sufficiently improved to restore its function. It is also hoped that the attachment of the raw surface of the kidney to the surrounding parts may improve its circulation. It has been demonstrated that the removal of the contracted capsule does improve the kidney circulation temporarily, but whether the newly formed capsule will contract or not we have yet to learn. How much the attachments to the surrounding tissues help is a matter of dispute. Edebohls, who is one of the leaders in this work, claims that there is post-mortem evidence to show that the vascular communication between the decapsulated kidney and the surrounding fat is quite free, and Johnson claims that experimental operations upon dogs show that the communication is very limited.

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*Read before the Inter-County Medical Society at Eau Claire, Wis., November 17, 1903.

We can readily understand how nature may restore epithelium under improved conditions, because this is one of her established laws, but as has been repeatedly pointed out by writers upon this subject, we do not know what she will do for sclerosed blood-vessels and contracted interstitial tissue.

The objection to this operation is, of course, the necessarily high mortality-rate for various causes, principally uremia, but where death is inevitable in a very short time without operation, we are surely justified in advising an operation that offers some hope. The hemorrhage is usually very slight, but one case is reported in which it was so severe as to necessitate nephrectomy.

All of the symptoms that ever accompany chronic nephritis have been mentioned as indications for this operation, but it would seem that some of the ordinary uremic symptoms with increasing edema and diminishing urine would render the operation imperative, if it ever is. In extreme cases of general anasarca the mortality is very high, but even some of these cases have been greatly improved by the operation. After we have had sufficient experience we can determine better when and when not to operate. One of the surgical paradoxes is that while anurea is the greatest danger from this operation, the operation has sometimes relieved this condition.

Surgeons have known for some time that a floating kidney that was going to the bad would many times be restored to health by a nephrorraphy.

Surgery has made wonderful advances in the past few years in the treatment of renal calculus. Every practitioner meets with some of these cases, and while they may, like cases of appendicitis, recover without surgery, every case of this kind has a surgical aspect, and in most of them surgery offers the only hope of relief. An operation is frequently indicated at an early period in these cases, and at that time is very safe and is followed by brilliant results.

A stone may be buried in a kidney for years without causing symptoms, or after making trouble for a time all symptoms may disappear. The fact that a patient has had symptoms indicating stone which have disappeared without the passage of a stone, is no proof that he did not have a stone. When a stone is located in the parenchyma of the kidney it is least likely to cause trouble. It is most frequently located in the pelvis or calyses, however, and when so situated is very likely to cause serious symptoms. There may be one or many stones. Both kidneys are affected in quite a large percentage of cases. Morris says ten per cent, and other writers place the percentage still higher.

Stone may develop at any time, from infancy to old age, but it occurs most frequently between twenty and fifty. It occurs most frequently in the male sex. Heredity seems to have some bearing, since members of several generations of the same family have suffered from stone.

Injury to the kidney has been followed by stone. In these cases it is probable that a blood-clot served either as a nucleus for the deposit of stone or as a locus minoris resistentiæ for the deposit of micro-organisms.

The vast majority of cases of renal calculus give rise to symptoms sooner or later. These symptoms may point to other organs, as the bladder, testicle, ovary, uterus, or stomach. The most frequent error is mistaking stone in the kidney for a diseased bladder. Morris mentions one case in which a vesicovaginal fistula was kept open for ten years for a supposed case of inflammation of the bladder, which was finally cured by the removal of a stone from the kidney. A stone in the kidney may cause high temperature and a general typhoid condition with general vague pains without pointing directly to that organ. The symptoms as a rule, however, indicate trouble in the kidney, and were it not for the fact that several other kidney troubles cause exactly the same train of symptoms a diagnosis of stone would be comparatively easy. The most difficult differential diagnosis is between stone and beginning tuberculosis of the kidney. The presence of the tubercle-bacillus in the urine is the only positive evidence of tuberculosis.

What most frequently calls attention to the kidney is an attack of renal colic. This usually begins suddenly, with vomiting and excruciating pain. The pain may be in the kidney, the abdomen, or along the course of the ureter. It is often most severe in the bladder or testicle, and is aggravated when the patient moves. One who is subject to these attacks usually learns that they are liable to be brought on by exercise, such as walking or riding. During or immediately following an attack blood and albumin may be present in the urine. Blood may precede the attack. The albumin is only a trace in early cases, such as can be accounted for by the presence of blood. Bleeding is present in the majority but not in all cases. It is diffused, causing the so-called smoky urine, and is seldom present in large quantities. Blood is not positive evidence of stone. The constant presence of blood corpuscles is better evidence. The pain usually ends suddenly, and may or may not be accompanied by the passage of a stone or gravel. The quantity of urine is usually diminished during the attack, and there may be complete suppression. There is often a dull, heavy pain in the other kidney, and a patient may have attacks of colic in a different kidney at different times. During the attack micturition is painful, and the desire to urinate is constant and often accompanied by inability to accomplish the act. A kidney containing a stone may be very sensitive to pressure, and this tenderness may extend down along the ureter. The attack may pass off leaving no trace behind, but when stone is present it is very apt to return. At an early period the urine may entirely clear up, but later blood corpuscles, albumin, pus, and hyaline casts are quite constant.

As stone in the kidney is a constant menace, for it may mechanically obstruct the ureter causing hydronephrosis or anurea, or it may be the cause of an infection of the kidney resulting in pyelitis, pyonephrosis, or abscess of the kidney. The kidney may become atrophied, or its substance may be almost wholly displaced by fat.

A patient may be suffering from nephrolithiasis without having attacks of colic. In these cases they are apt to come to us in the same condition as the patients who have had frequent attacks; in fact they are usually worse off, because their condition has not been understood. They give a history of failing health, and a train of bladder symptoms. They have probably had sudden attacks of high temperature and general malaise. Examination of the urine will usually show blood corpuscles, albumin, pus, and hyaline casts. The urine will be acid, and the pus will not be stringy, and will separate from the urine readily on standing. The urine does not become offensive until the kidney is very badly damaged. This condition of the urine does not contraindicate operation, but it must be remembered that other diseases of the kidney cause these same symptoms. It is very important in these cases to get the urine from the two kidneys separately, and for this purpose a Harris segregator is the best instrument. Catheterization of the ureters is difficult for the average physician, the apparatus is expensive and perishable, and the proceeding is not free from danger. The segregator can be handled by anyone accustomed to making careful examinations, and it gives very satisfactory results. It is possible that at some future time the Röntgen ray may help us make a dignosis of renal calculus, but my experience so far has been very disappointing, and that too after trying the experts of New York and Chicago.

The recent advances of surgery in this very grave malady are in the early exploration of the kidney for diagnostic purposes in doubtful cases, and in the early and intelligent removal of the stone before the kidney is destroyed.

When the attacks are frequent and severe, or when hemorrhage is severe, the kidney should be boldly explored. If done early before infection has occurred it is a very safe proceeding in good hands. Morris reports 131 explorations with but one death. The exploration should be made through the lumbar incision and through an opening in the cortex of the kidney large enough to admit the index finger. The old method of exploring with a needle is unreliable, and is no safer than the digital exploration. Palpation of an exposed kidney will not suffice, for even a large stone may escape detection unless the kidney is opened. It is often necessary to explore the ureter, and this can be done by means of a catheter passed through the opening in the kidney. A stone will not always be found, but some other condition may be found which can be remedied by operation, and the dangers from exploration are infinitely less than those from delay and uncertainty.

When cases of stone in the kidney come to us late, it is our duty to operate notwithstanding bad conditions, especially when we know that the patient has one good kidney. This operation should begin as an exploration, and is performed in the same manner as an earlier exploration by going through the loin and the cortex of the kidney. The incision should be made through the convex surface of the kidney even when the stone is believed to be in the pelvis, for an opening through the pelvis does not give access to the deeper parts of the kidney, and stones so situated may not be found. The stone can usually be removed by the exploring finger, and this is safer than forceps, for the latter may break the stone. The operator should never be content when he has found one stone, but should carefully explore every part of the kidney, for frequently there are several stones. The method of operating through an opening in the pelvis of the kidney, which was in vogue only a few years ago, many times failed to relieve the patient because all of the stones were not found. As long as the kidney is performing its function it is our duty to try to save it by removing the stone and by establishing drainage when there are abscesses, but when the organ is so far gone that its usefulness is doubtful it is safer and better to perform nephrectomy. I present a specimen of a kidney which I had hoped to save, but which you can see contained a large stone, and is practically a pus sac. This patient had one good kidney, and was promptly restored to health after having been a semi-invalid for many years. It is just this condition of the kidney, with all the attendant suffering, invalidism and danger that we can prevent by operating early. When a train of symptoms indicate stone in the kidney an early exploration should be made instead of waiting for a positive diagnosis until the kidney is destroyed, and the patient's life endangered.

SOME COMPLICATIONS OF STRANGULATED HERNIA, WITH CASES

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MINNEAPOLIS

This paper is written for the purpose of dealing with a few phases of strangulated hernia, illustrated by some of the cases which have fallen to the experience of the writer.

First, apparent reduction of a strangulation. This may occur when sufficient force is used, by reduction of the sac still containing its hernia and without relief of the constriction at its neck, or by forcing the contents into another portion of the same sac or through a tear in its neck. It is a grave accident. It gives one a sense of security. Valuable time is lost and a fatal issue made more sure. The following is a case in point:

Six months ago the writer was asked to see Wm. G——, a strong, well-developed Swede, aged 40 years, previously perfectly well. His bowels had moved last five days before. Nausea had developed the second day; occasional vomiting and retching the third, fourth, and fifth days. When seen the patient was in no pain; his face was flushed and anxious; his pupils were dilated; perspiration was standing on his forehead. The abdomen was moderately distended, bulging more in its upper third, and for the most part tympanitic. There was dullness in the hypogastrium and right iliac region. A small inguinal hernia presented on the right which seemed easily reducible, which the patient had had for some time, and which was not tender. There was no noticeable abdominal tenderness. Cathartics and enemas had given no result. The pulse was slightly rapid and rather small; the temperature normal. The writer made a diagnosis of intestinal obstruction from some cause not yet clear, and advised operation. The advice was not accepted.

Three movements of the bowels were obtained later in the day from high enemas, but the symptoms slowly increased in severity. Two days later the vomitus was stercoraceous, thin, and yellow with a slight pinkish tinge. Operation was now demanded as a last resort, and was performed by another hand, on this same day, the seventh day of the symptoms. Through a median incision the small intestines, congested and distended, were turned out of the abdomen. The large bowel was empty and collapsed. A knuckle of the small bowel, just enough to close the lumen, was found strangulated in its sac at the right internal ring. The patient required repeated stimulation during the operation, and vomited constantly. During the act of replacing the bowels, with a copious outpouring of a fluid, stercoraceous vomitus, the patient became asphyxiated, drowned in his own vomitus, and expired in spite of rapid resort to artificial respiration.

This case brings up several points of interest. It shows that we cannot exclude a strangulated hernia because of a lack of pain and localized tenderness. The hernia was found, and was handled. It shows, further, that it does not require great force in the reduction of a strangulated hernia to produce a reduction en mass with the sac still grasping the bowel, and in this case leading to a fatal issue. It forces home to us again the fact that time is of supreme importance when dealing with intestinal obstruction and intestinal strangulation. Within a year the writer has seen five cases of intestinal obstruction lost because of delay and temporizing after the symptoms clearly indicated the need of operative relief. The following is an example:

A woman, 64 years of age, had had symptoms for four days, beginning with pain over an old femoral hernia and radiating over the abdomen, with obstruction of the bowels, with general depression, and with nausea which led to vomiting by the next morning. Her family physician was called, and he was anxious and faithful in his attendance during the succeeding three days. He made repeated attempts to reduce the strangulation by taxis and by cold applications. Meantime the symptoms increased, vomiting became more frequent, and on the fourth day was faintly fecal in odor, i. e., eighth day of symptoms. At the same time her general depression had increased until she was in a condition of mild stupor. There had been no movement of the bowels since the first few hours. Her pulse was rapid, small, and feeble. At this point the writer was asked to see the case. While the condition was not promising, she was transferred to the hospital, one mile distant, and was operated upon immediately after her arrival. She took the anesthetic quietly, and did not vomit. On making the incision the hernia was found to have been reduced during the administration of the chloroform. The sac was small, about the size of an English walnut. Its neck would admit a finger. Owing to the poor general condition of the patient, it was not deemed wise to make an abdominal incision and hunt through the intestines for a possible point of gangrene. The femoral opening was rapidly sutured, and the patient returned to the ward. The operation did not seem to influence her much one way or the other. She gradually faded away during the next twelve hours, apparently relieved of the obstruction, because she did not vomit, but she was without the strength to rally.

It would seem that an early operation would have been simple and would have offered the patient more than a fair chance of recovery. In commenting on the case, it might seem that it might have been best to have administered an anesthetic during the early attempts at reduction. This might have been efficient, but the intestines and the tissues had not then become relaxed by the long continued tension and the general depression, and might have stood up against the manipulation. But, be that as it may, gangrene of the bowel is what we fear as well as reduction en mass, and an anesthetic adds very materially to our power to damage the bowel by manipulation. As a rule an anesthetic should not be given unless one is prepared to proceed at once with operation if taxis should fail. In regard to taxis itself, it is always a step taken in the dark. As a rule it is not safe after the first few hours of strangulation, and then only for short periods and with caution. The vitality of a strangulated bowel is so rapidly reduced that it is soon dangerous to use taxis lest the added trauma may cause gangrene, or lest a bowel which is already gangrenous or perforated may be reduced into the abdomen.

When there is no surgeon at hand and a country practitioner must assume the responsibility, the rules are changed. Taxis may be employed for a longer time and it may be used with care under an anesthetic. But there comes a time when the early appearance of fecal vomiting or the duration of the strangulation points to probable death of the bowel. To reduce this would mean the leakage of bowel contents into the abdomen and would be fatal. Before this time comes, if the physician is wise, he will proceed to operate himself, if he cannot get proper assistance, however little he may like to do so. His operation may be simple. He always has time to sterilize the skin, his hands, and the instruments in his pocket-case. He can now cut through the tissues down to the neck of the sac, and with his blunt-pointed hernia-knife pushed under the fibers which constrict it, he can cut them through without even opening the sac. A director and an ordinary knife may be used instead of the herniatome. If the bowel seems good it may be reduced, as the sac will easily stretch now that the constriction has been cut. A clean dressing may be applied with or without a few stitches to close the wound. If the physician should have been called late, and gangrene is actually present, and no surgeon within call, probably the best thing for him to do would be to open the bowel as it lies in the sac, and thus make an artificial anus. Often there will be enough adhesions from the inflammation now present to hold the bowel in the sac without the necessity of stitches. If not, a few anchor stitches may be inserted. The artificial opening can be closed later by a proper surgical operation.

To bring up some points in regard to gangrene of the bowel the writer will relate the following case:

At 9 p. m. Mrs. G——, a fleshy woman, 62 years of age, was taken with a sudden sharp pain in the region of an old femoral hernia which had always been reducible. Later in the evening the pain increased somewhat, and radiated over the lower abdomen and toward the umbilicus. There was considerable depression, and nausea soon set it. The patient vomited a few times during the night, mainly stomach contents and mucus. The next morning the vomitus was bile-tinged. Later there was apparent bowel contents; reversed peristalsis had evidently set in. Dr. E. R. Hare, of Minneapolis, whose patient she was, telephoned at once to me, and we arranged to have her sent to the hospital immediately without the delay of a visit. She was operated upon by me at 12:30, fifteen and a half hours after the onset of the first symptoms, Dr. Hare assisting.

The usual incision was made, the sac opened, and out poured about one ounce of a dark-colored serous fluid. At first glance the sac seemed empty, but there was a small knuckle of bowel caught in its neck. On attempting to withdraw this, the bowel slipped away into the general abdominal cavity. An incision was now made into the abdomen above Poupart's ligament through which the bowel might be inspected. The coil of intestine lying nearest the femoral ring proved to bear the knuckle which had been strangulated. It included just enough to close the lumen of the bowel and cause complete obstruction. Three-quarters of the bowel circumference at the lower point of the constriction was yellowish gray, and leathery to the touch. It had become gangrenous sometime before the operation. This strip of dead bowel was three-eighths of an inch wide at its middle, and tapered down to an angle not far from the mesentery on each side. Instead of resecting the intestine, as the rest of the bowel was good, the writer folded the gray strip in, and made a complete suture, in two rows, of the bowel about it, thus leaving it inside the intestine to slough off after more or less healing had taken place, and in this way avoided the danger of infecting the general peritoneal cavity by a resection. The patient was suffering from a mild chronic interstitial nephritis at the time ot the operaton and had a definite attack of grippe later during convalescence, but the intestinal suture did well from the first. The patient is now well save the presence of her mild chronic Bright's disease.

In looking over this case it will be noticed that the vomitus was fecal in less than twelve hours after the first symptoms appeared. When the intestine is obstructed, as by a strangulation, the intestinal contents in the portion of the bowel above the strangulation remains a longer time than usual, and changes take place which normally go on lower down in the bowel. For this reason, when the reflex irritation of the constriction has caused the stomach to empty its contents and then when direct peristalsis has tired in the attempt to force the intestinal contents past the unyielding barrier of the strangulation, and has ceased and then has given way to reversed peristalsis, which forces the changed intestinal contents backwards into a stomach which vomits them forth, they are stercoraceous; they smell like feces, but they are never feces. When stercoraceous vomiting occurs it is practically always a sign of complete obstruction, and, further than this, it is never safe to assume that the bowel is not already gangrenous. The early onset of severe pain points to a tight constriction. The early appearance of fecal vomiting points to an early gangrene. Gangrene of the bowel may even occur when there has been no noticeable pain, as was pointed out in the first case given in this paper. The development of gangrene is sometimes startling in its rapidity. The bowel has been found gangrenous four hours after the onset of the symptoms (International Text-Book of Surgery, p. 485), and death with rupture of a gangrenous bowel and with a sac filled with feces, has been reported eleven hours after the first symptoms (Thos. Manley, Philadelphia Medical Journal, March 6, 1901).

The practitioner must meet the cases of strangulated hernia with resolution. He must let his mind work clearly. He must see what is already evident. He must grasp the situation, and be bold. The hours count.

There is one point suggested by the case which it seems to me should be emphasized, and that is, that the operator should always pull out the bowel and examine it carefully even if he must make another abdominal opening, as was done in the case reported. To leave a gangrenous bowel in the abdomen is fatal.

When gangrene is present, how shall we deal with it? In the case last given the gangrenous strip, three-quarters of the bowel circumference, was folded inwards and the bowel sutured. This had the effect of removing a "V," which would increase the caliber of the bowel at the line of suture, as the depth of a lower lip was deepened by the old "V" operation for epithelioma. It had the advantage of avoiding the necessity of opening the bowel, and thus avoided the greatest danger of the operation. This is a common shape for the gangrene to take, and it would seem that the method might fairly often be employed. When it comes to small, irregular patches of gangrene they should be folded in in the direction of the bowel circumference when this can be done, as this will increase, and will not diminish the caliber at this point. If they are not wide, and it is necessary to suture them in the direction of the bowel, this may be done, but if they are wide this procedure would so narrow the lumen that it is better to do a formal resection. When a resection is done for these cases, or for those in which gangrene is more extensive, the bowel should be taken well out beyond the gangrene to a point where there is no question about its vitality. The saving of a few inches more, when resection is actually to be done, is of little importance, and it is folly if there is the slightest question of its vitality.

There is another complication of strangulated hernia for which the writer wishes to quote one more case from his series. It is volvulus of the intestine associated with hernia.

The patient was a fleshy woman about 42 years of age, who had had a medium-large irreducible, umbilical hernia for years, with slight symptoms. Three days before operation the patient felt sudden pain at the site of the hernia. This was severe and continuous, with later some colicky abdominal pains, but the pain at the umbilical region predominated. Nausea developed after the first few hours, and occasional vomiting on the second day. Vomiting and retching continued at intervals during the second night, and increased somewhat during the next day. Pain and distress were constant, and the bowels were constipated. The patient was first seen on the evening of the third day. She was anxious, her pulse rapid and small, and her temperature about normal. The abdomen was distended and tympanitic. A hernial mass at the umbilicus about the size of four fists, was tense, tender, and dull and tympanitic in spots. At operation the great bulk of the hernial contents proved to be omentum tightly adherent in a sacculated pouch. Beneath this was about six inches of perfectly healthy large bowel, and in the center of this was a second loop of about four inches of dark, congested small intestine twisted at the hernial opening. When the opening was enlarged and the bowel untwisted, its color soon became better, and it was returned to the abdomen with the other loop of bowel. Most of the omentum was resected, and a radical cure performed. The patient recovered.

Hernia is not an infrequent cause of volvulus. It may affect the intestine and the small portion of the mesentery in the hernial sac, or it may be in the abdominal cavity and involve more of the bowel and more of the mesentery. It may be caused by traction on a coil of intestine attached to the higher portion of the mesentery dragging it down so that it becomes the lower part and thus makes it half turn on its axis, causing obstruction and strangulation.

The most unfortunate mistakes are liable to be made when the volvulus is deep in the abdomen. A hernia sac is opened, and a congested coil of intestine is reduced, but if the unsuspected volvulus persists, the symptoms are not relieved, and death removes the patient unless another operation is hastily performed.

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THE PARTURIENT

The paper, "A Plea for Child-bearing Women," by Dr. Wm. E. Ground, of Superior, Wis., which appears in this issue of THE LANCET, should be read by every general practitioner who enters the field of obstetrics. The paper may contain no new information, but it covers the subject in a very sensible exposition of plain and wholesome facts.

There is a very general tendency among busy men to minimize the details in the care of the parturient woman. The younger men in medicine do not often possess the necessary assurance or self-confidence to enable them to carry out a systematic line of investigation and preparation, and often they are too modest to insist upon necessary methods or they too often follow the lead of the older man who, from practical experience, takes things for granted and assumes that all is well. A very general rule is followed by most practitioners, namely, to examine the urine occasionally, yet too often even this investigation is carried on in the most casual manner.

As Dr. Ground's suggestions are timely and in line with the best teaching, every man who practices obstetrics should carry out all of the methods employed by scientific and trained operators. If by pelvic measurements one can prepare for the possibilities of the confinement, it should be a routine practice, yet how often is it done?

The investigation and relief of disease-states is undeniably as important as is the prevention of visceral ptosis. Equally important is the repair of injured genitalia. To sew up the torn cervix is common practice; to fail to repair a ruptured perineal floor is also a common practice. Too often the obstetrician leaves this work to nature, or, failing to recognize the torn and separated muscles, he overlooks an enormous gap for future distress.

The number of child-bearing women deficient in floor support is enormous, and the amount of discomfort therefrom is underestimated. It is probably safe to affirm that more diseases and discomforts, general or nervous, result from failure to repair the perineum than from the tears in the cervix, which are so commonly and confidently charged to the cause of functional and nervous disorders.

The plea of Dr. Ground should be more conscientiously heeded, and the child-bearing woman made more like her pro-parturient self.

A BEAUTIFUL TRIBUTE

The house of Parke, Davis & Company, of Detroit, Mich., has grown to such magnitude and is so intimately connected with the medical profession that the tribute recently paid to the memory of its deceased head, Mr. William M. Warren, cannot but have special interest to medical men in all parts of the world. This interest inheres, first, in the character of the deceased and, secondly, in the reflected character of the house.

Mr. Warren was not forty years old at his death. He entered the service of the firm as a lad of seventeen, and at the age of thirty-two he was its executive head. To his ability and integrity the directors ascribe the phenomenal growth of this mammoth concern, whose buildings cover acres of ground, whose offices are to be found in all parts of the world, and whose employes number thousands, many of them being professional men of the highest scientific attainments.

A single sentence from the long recital of Mr. Warren's work gives the key-note to the success of both the deceased and of the firm. It is as follows: "Gifted he was, but his strength lay as much in moral weight as in mental endowment, and his remarkable success was only the destiny of character."

THE UNTRAINED NURSE

The Young Women's Christian Association of New York maintains a department of instruction to attendants on the sick, and thus puts untrained nurses in a class by themselves. These "attendants" are employed by physicians as assistants to the trained nurse, or are employed for convalescent or chronic cases. They are given a very good training in the rudiments of nursing, and pass a written examination before a trained or graduate nurse and a physician who issues a certificate if the candidate is successful.

The accompanying circular explains the regulations and course of study, and is a strong argument in favor of a separate bureau for this class of nurses. There is plenty of room for one, and plenty of work for nurses of this type, and the Young Women's Christian Association of Minneapolis would do á great service if they would copy the work of New York. This suggestion would solve the question of a nurse's bureau in the Hennepin County Medical Society, and would materially assist in elevating the standing of nurses.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION
of the City of New York

DEPARTMENT OF INSTRUCTION TO ATTENDANTS ON THE SICK

The purpose of this department is the training of women to be attendants in the care of convalescents, feeble or elderly persons, and sub-acute and chronic cases.

There are many intelligent women who are unable to give to study the length of time required to become a trained nurse; and there are many families, who, for economic reasons, are obliged to do without trained assistance in times of illness. It is to enable such homes to obtain better aid at a moderate compensation, and to offer an honorable means of livelihood to women, that this work is established.

Applicants for admission to the course for attendants must understand that the position of an attendant is not that of a "trained nurse," and they cannot hope to become trained nurses by taking this course alone. The course of study for a "trained nurse" lasts at least two years, while this course lasts but ten weeks. An attendant cannot charge or expect to receive as much as a "trained nurse." On the other hand, the attendant cannot be expected to assume the resposibilities of a "trained nurse."

REGULATIONS FOR THE TRAINING OF WOMEN AS ATTENDANTS

These classes are open only to women studying for self-support.

The course of instruction embraces a period of ten weeks, devoted to fifty lectures, class work and practical nursing, given by a trained nurse.

No pupil will be admitted under twenty or over forty years of age, except by special permission of the committee.

The work of an attendant on the sick requires intelligence, good temper, cleanly and orderly habits, entire trustworthiness, and a cheerful and willing disposition. No one should enter on this work except with a strong sense of duty and a readiness to conform to strict rules of discipline and obedience to the physician's orders.

Pupils must present references of high character and general intelligence.

Pupils who wish to obtain certificates must be prepared to do all the work of the course, as required by the teacher. The character of this work is a very important test of the ability of the pupil.

No attendant is allowed to charge more than $7 a week (and board and laundry) during the first year of service.

A pupil will be dropped from the class if she is absent from lessons; if she does not show a willingness to learn and to obey the instructions given her; or if she does not give satisfactory evidence of ability and character.

There is an examination at the end of the course.

A certificate of the Association is given to those who pass such an examination.

Certificates permit the holders to register for six months in Employment Bureau of the Association without payment of fee. Further particulars may be learned by application *in person* to Class Department, 7 East 15th Street, N. Y.

COURSE OF STUDY.

1st. Personal Hygiene, Sick Room Hygiene, Methods of Ventilating, Sweeping, Dusting, Care of Utensils, Temperature of Room.
2d. Circulation, Taking of Temperature, Pulse and Respiration.
3d. Bed Making for bed patients, for Convalescents. Baths—Sponge bath in bed. Foot bath *in* and *out* of bed. Frequency of bathing. Care of Teeth, Hair, Nails and Mouth.
4th. Care of patients—Lifting, Moving, Arranging of Pillows, Prevention of bedsores.
5th. Enemata—Kinds, Methods of preparation, Care of Appliances, Douches.
6th. External Applications—Hot Water Bags, Hot Bottles, Flannels, Salt Bags, Poultices, Mustard Plasters, Stupes, Iodine, Liniment, etc.
7th. Digestion, Diet, Preparation of and serving Food, Arranging Menus.
8th. Peptonizing Milk, Milk Diets, Care of Babies' Bottles and Nipples.
9th. Contagion—Disinfectants, Uses and Preparing of Solutions.
10th. Emergencies, Writing Notes, Reading Aloud, Packing a Trunk.

Tuition fee, term of ten weeks	$12.00
5 Lessons per week. 9:30 to 11 a. m., or 11:30 to 1 p. m.	
Dress supplied by the Department	3.00
Course of 10 lessons in Cooking for Invalids	4.00

Tuition fee must be paid before entering the Class.

No fee, or portion of fee, will be returned to pupils after the term has commenced.

We also publish in another column a report made to the nurses of New York concerning the work of the State Association.

MISCELLANY

TO THE NURSES OF NEW YORK STATE

The Publication Committee of the New York State Nurses' Association, under instructions from the Executive Committee, issues the following statement to the nurses of the State who have not been able to attend the meetings during the past year.

The first general meeting held in Albany, April 16, 1901, was announced as widely as possible beforehand, through the nursing journals, the public press, and by notices sent to training schools, and individual nurses, so far as addresses could be obtained. At this first meeting Miss S. V. Nye, of Buffalo, was elected president, with Miss E. C. Sanford, of Rochester, secretary; and a constitution was adopted, consisting of the three articles required by incorporation papers, viz.: the name, the objects, and the officers of the association. The by-laws were purposely left to a later meeting, in order to give time for nurses to think well over the requirements for membership, and that each step might be taken slowly and carefully.

The second meeting was held in New York, January 21, 1902. At this meeting the eligibility for membership was agreed upon, viz., that graduates from all general hospitals giving a two years' course, and graduates from any State Hospital for the Insane giving a course equal to that of the New York State Hospitals for the Insane should be eligible for membership. Nurses who were trained before 1897 are eligible, who had only one year's training. The size of the general hospital is not considered, and by general hospital is understood a hospital where general diseases are nursed.

The by-laws were not finished at this second meeting, but the association voted that incorporation papers should be obtained, and this was done before the third meeting.

The third meeting, which was also the Annual Meeting, was held in Albany, April 15, 1902. The by-laws were finished and formally adopted, and new officers elected, the secretary remaining the same.

With the begining of its second year, the work of organization being finished, the association is now in a position to take definite steps towards raising the standard of nursing in New York State.

It has always been understood that the work of a State Society of Nurses is to secure laws which will establish a uniform and definite basis for the practice of nursing, just as the State Medical Societies have had laws passed which regulate the practice of medicine, and although not stated in so many words in the constitution, one object of the New York State Nurses' Association, as stated at every meeting and in every announcement, is to work for legislation as a means of raising the standard.

What can legislation do for nurses? It can do this. It can prevent a probationer or pupil, dismissed for unfitness, from donning a uniform and calling herself a trained nurse, thus imposing upon the public and endangering the lives of sick people. True, it cannot prevent the public from employing such women, if they choose, but it can prevent the public from being deceived. Such women must be known for what they really are, untaught and untrained women, and in this way they will be prevented from competing with the fully trained nurse who has given two or three years to the study of her profession. Then, little by little, and year by year, the law can require the training schools to give better and more complete training. It can fix a "minimum" standard of teaching. This will be what we all agree upon as the least that any woman ought to know in order to call herself a trained nurse.

The New York State Nurses' Association is now taking the first steps toward the passage of such a law. Its legislative committee is taking the advice of members of the Board of Regents towards forming a legislative act to this end, and now we call upon all nurses of New York State who care for their profession to give their help. What can they do?

First, they must be interested. So far, the private duty nurses, who are the very ones who suffer most from bad conditions, have taken the least interest. We call upon them to inform themselves as to this movement. If they belong to Alumnæ Associations or general nursing clubs, they should see that their society or club joins the State Association. If they do not belong to any society or club, they should join the State Association as individuals.

Next, they should talk of the importance of this movement to their patients, to the physicians with whom they work and to their friends. They should explain the dangers to the sick, especially when the doctor is not near at hand, and the wrong to themselves of the present lax methods in nursing.

They must do all in their power to reach the politicians who will vote in the legislature. They must interest all the people they know who have influence in reform movements, such as the members of women's clubs, and those prominent in educational matters.

Private nureses, if they are interested, can be a great power in this movement, through their personal influence with the people with whom they come in contact. We make this appeal to every nurse in the State to do her share in the uplifting of her profession.

The Nurses' Registration Bill was enacted April 20, 1903.

MODE OF DEATH IN WOUNDS OF THE HEART

In wounds of the heart the escape of blood is never in a large quantity, and the fatal consequences are due to the filling of the pericardium, which interrupts the alternate contraction and expansion necessary to maintain the circulation. Deaths from wounds of the heart are identical with those of gradual suffocation. This fact was strikingly demonstrated in the case of the late Empress of Austria, where the incision into the heart was through the thin walls of the auricle, hence the "valvular" action of the incisions through the ventricles was lacking.—American Medicine.

DECAPSULATION OF KIDNEY

Blake (Boston Medical and Surgical Journal) reports five cases operated upon during the past nine months. Two are practically well, one not improved and two have died at intervals of four days and six months after operation. All cases were operated upon simultaneously by two surgeons, each completing the operation upon one kidney. The diminution of urine following operation is always temporary, disappearing quickly within a few days, usually exceeding the amount previously excreted.

BOOK NOTICES

Organic Nervous Diseases. By M. Allen Starr, M. D., Ph. D., LL. D., Professor of Diseases of the Mind and Nervous System, College of Physicians and Surgeons, The Medical Department of Columbia University in the City of New York; Consulting Neurologist to the Presbyterian, St. Vincent's Hospital, St. Mary's Free Hospital for Children, and to the New York Eye and Ear Infirmary; ex-President of the American Neurological Association and of the New York Neurological Society; Vice-President of the New York Academy of Medicine; Corresponding Member of the Societe De Neurologie De Paris; Author of "Familiar Forms of Nervous Diseases," "Brain Surgery," and "Atlas of Nerve Cells. Illustrated with 275 engravings in the text and 26 plates in colors and monochrome. Lea Brothers & Co., New York and Philadelphia.

Every medical man, whether student or practitioner, who has had the pleasure of listening to Dr. Starr's lectures will thoroughly appreciate his latest work. It is by far the most pretentious book, and is as readable as the author's lectures are enjoyable. The style is like the man,—crisp, clear, and convincing. When one reads his chapters it is like hearing the living voice.

This volume deals with the structure of the nervous system, and only with its organic diseases. The mass of pathological and clinical material, combined with the author's personal observation and experience, forms the basis of his facts and theories. While there may be here and there no new theories, and while the old in place of the new and accepted advances may be casually mentioned, there is an abundance of rich material which is really new, and which carries with it the weight and judgment of Starr's observations.

The chapters on tumors of the brain and cord, abscess, locomotor ataxia, together with the chapter on diagnosis and location of brain diseases, are drawn from the author's clinic and private practice.

The text is clear and the illustrations numerous (275 engravings and 26 plates in colors and monochrome) and helpful. The book makers have done their work well.

NERVOUS AND MENTAL DISEASES. By Archibald Church, M. D., Professor of Nervous and Mental Diseases and Head of Neurologic Department, Northwestern University Medical School, Chicago; and Frederick Peterson, M. D., President of New York State Commission on Lunacy; Chief of Clinic, Department for Nervous Diseases, College of Physicians and Surgeons, New York. Octavo 875 pages; 338 illustrations; cloth, $5.00 net; Sheep or Half Morocco, $6.00 net. Fourth Edition, Revised, W. B. Saunders & Company, Philadelphia, New York & London.

This is the fourth edition of this work since 1899, which shows the appreciation of the profession for a practical one-volume work on mental and nervous diseases. It is intended and arranged for students and general practitioners.

The descriptions are clear, and especial attention is given to diagnosis which is the bug-bear of neurology. The directions for prognosis and treatment are much more definite and satisfactory than those of most authorities on these subjects.

Additions have been made to the subjects of healing of nerves, intermittent limping, herpes zoster and the so-called Combination Disease.

The part on insanity contains a new section giving a critical review of the work of German schools in psychiatry. Although the book has always been well illustrated, new cuts have been added, and mental diseases are certainly well pictured. It is well printed on good paper, neatly bound, and is a very useful book.

A THESAURUS OF MEDICAL WORDS AND PHRASES. By Wilfred M. Barton, M. D., Assistant to Professor of Materia Medica and Therapeutics, and Lecturer on Pharmacy, Georgetown University, Washington, D. C.; and Walter A. Wells, M. D., Demonstrator of Laryngology and Rhinology, Georgetown University, Washington, D. C. Handsome octavo of 534 pages. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Flexible leather, $2.50 net; with thumb index, $3.00 net.

The publishers say this is the first medical thesaurus ever published, which may lead physicians to ask, "What if it is?" Our answer to this would be the dogmatic assertion that no man can become master of any science without a perfect understanding of its terms, nor can any man become master of English without an understanding of English words; and no man can master scientific terms or English words without gaining the knowledge, in some way, that a good thesaurus will give him in the easiest practical way.

We further assert, dogmatically it may be, that every man who writes a paper for a medical society or for a medical journal will greatly enhance the value of that paper by editing it with a good thesaurus at hand; and we are not sure but he will largely increase his own knowledge in so doing.

The medical profession may well thank Drs. Barton and Wells for so valuable a contribution to medical literature.

THE AMERICAN TEXT-BOOK OF OBSTETRICS. By Richard C. Norris, M. D.; Art Editor, Robert L. Dickinson, M. D. Second Edition, Thoroughly Revised and Enlarged. Two handsome imperial octavo volumes of about 600 pages each; nearly 600 text-illustrations, and 49 colored and half-tone plates. Per vol., cloth, $3.50 net; sheep or half morocco, $4.00 net. W. B. Saunders & Company, Philadelphia and London.

This is a work for the student and practitioner alike. It makes clear those departments of obtetrics that are at once so important and usually so obscure to the medical student. The obstetric emergencies, the mechanics of normal and abnormal labor, and the various manipulations required in obstetric surgery are all described in detail, and elucidated with numerous practical illustrations.

Since the appearance of the first edition many important advances have been made in the science and art of obstetrics. The results of bacteriologic and of chemicobiologic research as applied to the pathology of midwifery; the wider range of surgery in treating many of the complications of pregnancy, labor, and the puerperal period, embrace new problems in obstetrics, some of which have found their place in obstetric practice. In this new edition, therefore, a thorough and critical revision was required, some of the chapters being entirely re-written, and others brought up to date by careful scrutiny. A number of new illustrations have been added, and some that appeared in the first edition have been replaced by others of greater excellence.

The care of the child-bearing woman, so well laid down by Dr. Ground in this issue of THE ANCET and commented upon editorially, is thoroughly covered in this work, which is indeed one of the best yet written.

NEWS ITEMS

St. Francis Hospital of Breckeiridge is to be enlarged at an expense of $25,000.

Dr. G. W. Dalquist, of Dassel, has returned to his former field at Willow River, N. D.

Dr. Muller, of Le Mars, Iowa, will locate at Edgerton, and take the practice of Dr. De Jong.

Dr. Jules Gendron, of Red Lake Falls, is in Chicago doing post-graduate work in surgery.

The Cooperstown (N. D.) Hospital has been re-organized and is now controlled by Dr. Burnap.

Dr. J. W. Golden, of Redwood Falls, has declined a government appointment in the Philippines.

Dr. W. H. M. Philip, of Hope, N. D., has returned from a month's special work in Chicago hospitals.

Dr. Paul Sorkness, of Fargo, was married on the 2d inst., to Miss Grace M. Thacker, of the same place.

Dr. W. E. Belt, has moved from Redwood Falls to Lamberton. Dr. Belt is a graduate of the State University.

Dr. Jens Ohnstad, a recent graduate of Hamline, has located at McIntosh, taking the practice of Dr. A. McEachran.

Dr. Henry O'Keefe, of Minto, N. D., will spend the winter in Oklahoma and on the Pacific coast in search of health.

Dr. T. L. Hatch, of Owatonna, has returned home after several week's absence on account of sickness, and is much improved.

Dr. W. G. Brown, of St. Cloud, who has been associated with Dr. J. B. Dunn, will spend several months in Europe, and then locate in Fargo.

Dr. Leslie G. Hill, who has been practicing in Iowa, has located in Watertown, S. D., and will confine his work to eye, ear, nose, and throat.

Dr. F. E. Larson, who graduated at the State University in 1902, has been compelled by poor health to give up his practice at Parker's Prairie.

Dr. G. I. Smart, of Blue Earth City, is going south for several months to recuperate. His practice will be in charge of Dr. L. L. Henninger.

On account of the death of Dr. Sam. C. Johnson, the Hudson Sanatorium will be closed, and we understand it is now offered for sale. It is a fine property and beautifully and advantageously located.

The Fifth District Medical Society of South Dakota was organized last month at Madison, S. D. The following were elected officers for the ensuing year: President, Dr. Arthur J. Doty, of Colman; vice-president, Dr. Frederick H. Files; secretary, Dr. John M. Duff.

Dr. H. W. Allen, of Red Wing, has returned from the Pacific coast where he was employed as physician and surgeon by the North American Trading & Transportation Co., on the steamers between Seattle and Alaska.

Three nurses of St. Joseph's Hospital, St. Paul, received each a diamond ring and a souvenir gold piece, for their kindness in the care of a wealthy New York patient, who was in the hospital three months with typhoid fever.

The Dakota County Medical Society was organized on the 4th inst., and the following officers were elected: President, Dr. A. M. Adsit, Hastings; vice-president, Dr. L. D. Peck, Hastings; secretary, Dr. W. M. Dodge, Farmington; treasurer, Dr. J. C. Fitch, Hastings. Quarterly meetings will be held hereafter.

The physicians of Chisago and Pine Counties met at Rush City last month and organized a district medical society with the following officers: President, Dr. H. G. Murdock, Taylor's Falls; vice-president, Dr. A. J. Stowe, Rush City; secretary Dr. O. S. Werner, Lindstrom; treasurer, Dr. C. A. Anderson, Rush City.

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A graduate nurse of the Northwestern Hospital Training-School, wants a position as head nurse in a small country hospital. Address Miss T., care of The Lancet.

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Being obliged to go to a milder climate, I wish to sell my business. The hospital is located in a N. D. village of 1,000 inhabitants, with a large contributary territory and two railroads. Myself and partner are the only physicians in the village, and we have the railroad, county, and village work. The hospital has 20 beds, and cost $16,000. I own $3,000 of the stock and one-half interest in the furniture and fixtures. I offer all this with by 5-room house which is steam-heated, and has hot and cold water, bath, etc., for actual cost, or about $8,000. The practice of the firm and hospital business amount to $20,000. The purchaser must be a surgeon of some experience. Address S, care of Lancet.

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